Gleanings in Bee Culture

Established 1873

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The Monthly Honey Market

U. S. GOVERNMENT REPORT
(Last half of February)
(Prices generally refer to sales by beekeepers f. o. b. shipping points except as otherwise noted.)

Arizona—Bees are becoming active, bringing in considerable pollen and small amounts of nectar, but gains are not being recorded in scale colonies. Unseasonable warm weather of January was followed by cold days, temperatures reaching 18° as far south as Tucson when colonies were heavy with brood. Beekeepers now have relatively little honey remaining unsold. Ice cream manufacturers have been competing with dealers in buying honey to replace sugar. Retailers are also stocking heavily on bottled honey, placing orders a month in advance where they can obtain the honey without too great a price advance. Market levels are higher but ranges are wide. Sales reported Light Amber to Extra Light Amber Alfalfa and Alfalfa-Mesquite 8-10c; White Mesquite-Catsclaw 1 car 7½c, several cars contracted for earlier, lower; small lots 10½c; ton lots Light Amber Mustard 7½c per lb., 1 lot White to Light Amber 11 2/3c per lb.; glass jars reported sold at 12c per lb., small pails 10c per lb. Beeswax, 40c per lb.

Southwestern States: Southcentral and Southwestern Texas—Cold, rainy weather has interfered with bees working on peaches and agarita, but when bees can fly they are building up satisfactorily. Moisture and plant conditions are good. No signs of plant growth reported on hoarhound or horsemint. Beekeepers are more active than for years and all men owning bees are placing the colonies in good condition. The number of colonies of bees going into honey production this year will be more than last year but not sufficiently above normal to be of importance in increased production. Most honey now on the grocers' shelves is from northern states. Cans have been purchased to take care of the anticipated needs of the season. Package orders are coming in rapidly. Sales reported ton lots extracted 6-7c per lb., cans returned; shipped-in Clover honey reported retailing at 50 per cent more than cane sirup. Demand for beeswax is far in excess of the supply, with prices for small remaining lots ranging from 38c to 53c per lb.

Southeast Texas—This period has been cold and rainy but when bees could fly they have been working on wild peach, elms, willows, Dutch clover, and other early blooms, which are fairly plentiful. Best colonies now have 6 to 8 frames of brood and queens are beginning to increase egg laying. More colonies will require feeding as brood-rearing increases, though good colonies are making more than a living. Occasional sales reported small pails extracted 6c per lb.

East Texas—Bees have brooded up rapidly. Many colonies have brood in 4 to 5 frames and are strong in bees. Stores are often short and some feeding is being done. Where stores are adequate colonies should be in good condition for package shipments. Demand for queens is very heavy and orders for package bees are also plentiful.

Oklahoma—Brood-rearing is well under way. In some portions of the State young bees are emerging from the broodnests. Recent cold weather is expected to slow down brood-rearing, and in the northern part of the state some brood may have become chilled where the colonies are not given proper protection. Feeding will be necessary in occasional colonies.

TOO LATE TO CLASSIFY

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Rio Grande Valley—Numerous inquiries for carlots of honey reported from eastern markets, but supplies are light. Sales reported Amber blend case to ton lots 6c per lb.; 60s 7½c; small pails 8½c per lb.; 1-lb. glass jars 15c per lb. Medium yellow beeswax, 42c per lb. The blooming of citrus fruit trees has been delayed somewhat because of cool weather during the past week. However the trees are loaded with buds and a few days of warm weather will bring out a good bloom. Light rains have provided moisture but more is needed and already irrigation is being used in citrus groves. Pink mint is blooming and bees are getting some nectar from this source.

Summary: Following a month of abnormally high temperatures in most sections of the country there has been a reaction to considerably lower thermometer readings. Exceptionally low temperatures reported in the Rocky Mountain States. Snow-cover increased over most of the north, and heavy rains fell in much of the south. The abundant precipitation should assure a plentiful nectar flow during the coming season. Beekeepers are increasingly concerned, however, about the possibility of bees starving before they can be fed. Package bee and queen producers in the South report heavy orders, but they may have difficulty in filling early orders because cool weather has delayed brood-rearing and queen-breeding.

It appears certain that many commercial beekeepers are planning on expanding their holdings of bees during the coming season in an effort to increase honey production. State apiarists, instructors in beekeeping at state colleges, and government officials are receiving many inquiries from former non-beekeepers who are interested in going into honey production. Further, these men are receiving also many inquiries for information as to how to use honey, and requests for radio talks, newspaper articles on honey, etc.

The market for honey has continued to advance as the shortage of supplies has become more evident and as demands by dealers, honey packers, bakers, ice cream manufacturers, soft drink bottlers, and many other industries using sweets have become more acute. Many carlot and less carlot orders at high prices are being refused by beekeepers because supplies are exhausted. Market prices have reached levels not obtained previously in the last 15 years, and the upward trend is continuing. However, while most beekeepers are obtaining higher prices, some apparently unfamiliar with recent market conditons, have been selling at prices but little above those prevailing two months ago. Demand for honey in small containers at retail has not increased as rapidly as has the wholesale demand, and retail prices in general have not advanced proportionately as much as wholesale prices. Reports toward the end of the period, however, indicate that retail prices are definitely rising. Comb honey has not advanced as much in proportion as has extracted, though stocks of comb are extremely light. Little recent change reported in the market for beeswax.

Monthly Report of Honey Producers

Date Rec.	State	Name	1941 Hold-over	Large Lots Ex.	To Groc. Ex.	To Groc. Comb	To Consum. Ex.	To Consum. Comb	Movement	Condition of Honey Plants	Condition of Col.	% of Winter Loss
9	S-Ala.	(J. C. Dickman)	0		.40		.55		Fair	100	80	
9	B. C.	(A. W. Finlay)		.12½	.75		1.00		Fair	100		
16	S-Calif.	(L. L. Andrews)		.12			.75		Rapid	50	100	10
16	C-Calif.	(Davis Bros.)		.10					Rapid	100	90	2
9	SE-Colo.	(Otis E. Adcock)	0	.05¼	.50		.59		Rapid	100	75	5
9	E-Conn.	(Allen Latham)	0		.75	4.75	1.00	.28	Rapid	100	100	
12	C-Fla.	(Harry Hewitt)	0		.57		.75		Rapid	100	100	3
11	SE-Ga.	(J. J. Wilder)	0		.60		.75			100	100	
6	S-Ills.	(Carl E. Killion)	0	.10½	.65		.80		Rapid	100	100	
9	NC-Ind.	(T. C. Johnson)	0		.60	3.60	.75	.20	Rapid	90	100	
9	NW-Ind.	(E. S. Miller)	0		.60	3.60	.70	.20	Rapid	100	100	
13	W-Iowa	(E. G. Brown)	0	.11			.65	.15	Rapid	100	100	
9	N-Maine	(O. B. Griffin)	0			4.75		.25	Fair	100	95	
6	E-Mich.	(L. S. Griggs)	0	.15			1.00	.20	Rapid	100	100	
10	C-Mich.	(E. D. Townsend)	0						Slow	80		
10	SW-Minn.	(L. A. Syverud)	0	.08	.55		.69		Rapid	100	110	
13	E-Minn.	(Floyd W. Ray)	0	.09	.65		.75		Fair	90	100	0
9	W-Minn.	(B.L.Morehouse)	0	.12¼	.65		.75		Rapid	80	90	
9	S-Minn.	(J. F. Garner)	0	.09	.70		.85		Fair	100	100	1
16	C-Nebr.	(J. H. Wagner)	0	.08			.59	.20	Fair	100	100	2
10	W-Nev.	(Geo. G. Schweis)		.08⅜	.40		.55	.20		100	75	
13	W-N. M.	(C. A. Baltzley)	0	.10			.68		Rapid	100	100	5
10	NW-N. Y.	(Geo. B. Howe)	0	.08	.60		.73	.25	Rapid	100	100	
9	C-N. Y.	(F. W. Lesser)		.12					Rapid	90	100	
12	SE-N. C.	(W. J. Martin)	0	.07	.75		.88		Fair	100	90	5
5	C-Ohio	(R. D. Hiatt)	0	.13	.85		1.10	.25	Rapid	90	95	
9	NC-Okla.	(C. F. Stiles)	0		.45		.65	.18	Fair	95	90	1
12	C-Penn.	(Harry Beaver)		.08	.65		.80		Rapid			
9	SE-Pa.	(D. C. Gilham)	10	.09	.75	4.25	1.00	.25	Rapid		90	
9	W-S. C.	(E. S. Prevost)	0		.17		.19		Fair	100	99	3
9	SE-S. D.	(J. F. Norgren)	0	.10	.60		.69		Rapid	90	110	
9	C-Tenn.	(J. M. Buchanan)	0				.75		Fair	90	100	
10	C-Texas	(T. A. Bowden)	0		.50		.60		Rapid	50	60	25
9	S-Texas	(J. N. Mayes)	0	.07	.40		.50		Fair	25		5
11	S-Texas	(H. B. Parks)	0		.40		.55		Rapid	90	95	
11	W-Vt.	(Phillip Crane)	0		.80	5.00	.95	.30	Rapid	95		
9	N-W. Va.	(W. C. Griffith)	0				.45	.19	Slow	80	75	
18	S-Va.	(T. C. Asher)	0		.60	4.00	.75	.25	Fair	90	90	2
9	SE-Wisc.	(N. E. France)	0				.68	.20	Slow			
9	N-Wyo.	(Earl C. Reed)		.08	.55		.65		Rapid	100	90	2

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L. R. Stewart, of Newport, Indiana, and his home yard (center), with club boys and girls (left) in Newport's famous 4H Bee Club.

p, Roy Bush, in charge of queen rearing project. low, Virgina Reed holds a fine Club comb.

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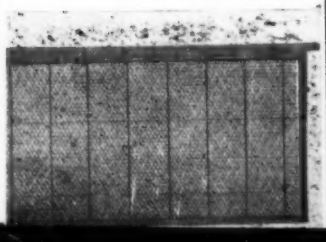

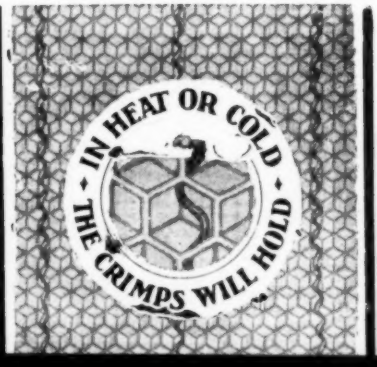

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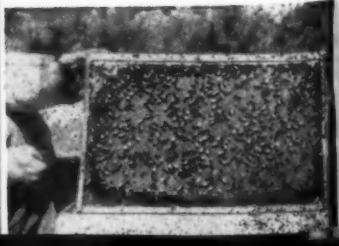


Vol. 70
No. 4

Gleanings in Bee Culture

April
1942

Colonies of bees and "bouquets" placed in a Northern Spy apple orchard to provide for cross-pollination.

Orchard Pollination

By H. D. Hootman, Secretary,
Michigan State Horticultural Society

Fruit growers should not underestimate the importance of pollination in the establishment of their orchards. There are a number of questions which are frequently asked in regard to this whole question of getting a satisfactory set of fruit by the use of honeybees: What is necessary for fruit setting to take place? How do weather conditions at bloom time affect insect activity and, consequently, fruit set? Under what conditions does the fruit grower need bees for pollination? What kind of established orchards are likely to be unprofitable due to an insufficient set of fruit at bloom time? Under what conditions of orcharding is a poor set of fruit most likely to be important?

The above are only a few questions frequently asked in regard to this whole question of the use of bees in orchards at bloom time.

Honeybees Important in Setting Fruit Crops

The importance of honeybees as agents in cross pollination can not be over-emphasized. No one insect is so well adapted for this purpose. Fruit growing of the future will largely depend upon the domestic bee—the only insect efficient in pollination which can readily be controlled by man. Over 52 species of insects have been observed working on apple blossoms, 50 on pear blossoms, and 37 on sweet cherries; but the honeybee still holds first place as the most important pollinating insect of them all.

Honeybees in collecting pollen and nectar are faithful as a rule to a

A heavy set of Bosc pears—a good pollenizer for the Bartlett.

Good crops of apples at harvest time are the result of good management.

single species of flower. They exhabit that trait known as "flower fidelity". This peculiarity of their nature provides for cross pollination and a waste of pollen is prevented.

Many fruit growers have entertained a rather hazy impression that fruit pollen was carried from one blossom to another by the wind. This is not the case. Fruit pollen is moist. It is seldom, if ever, transferred by wind. The transferring of pollen is carried on mainly by insects, especially honeybees. No other insects are so well adapted for this purpose.

Orchard Planting Practices

It is important that the man planting an orchard have a knowledge of fruit varieties so that they may be so arranged in the orchard that cross pollination will take place when the orchard reaches bearing age. For the most part, fruit pollen is not readily distributed by bees effectively for a distance of more than 150 to 200 feet. Consequently, varieties that are self-sterile should always be inter-planted with other varieties that are known to effectively fertilize them. Without a knowledge of the pollination of fruit bloom, the selection of varieties for planting and their arrangement in the orchard cannot be intelligently practiced.

Cultivation of Self-sterile Varieties Unprofitable

The cultivation of self-sterile varieties is frequently attended by disappointment and loss unless provision is made for cross pollination to take place. Under Michigan conditions, the following varieties of fruits are most likely to be poor producers when planted in large blocks: McIntosh, Northern Spy, and Delicious apples are all more or less self-sterile and need to be inter-planted with other varieties. The Bartlett pear is invariably a light producer unless some other pear variety such as the Bosc or Howell is inter-planted with it so that cross pollination can take place. The J. H. Hale peach is about the only commercial peach variety which is self-sterile. The Banner has proven to be a satisfactory pollinator for the Hale. All sweet cherry varieties are self-sterile and need to be inter-planted if good crops are to be produced. On the other hand, the Montmorency sour cherry is self-fertile and can be planted in large blocks but bees should be provided at bloom time to fertilize the blossoms.

Success with Bees in an Orchard

Success with bees in an orchard is frequently determined by the man handling them having a knowledge of bee behavior. Only strong colonies should be used for pollination purposes. Careful attention should be given to moving them and lastly, the proper placing of the colonies in

the orchard. Cold rainy weather at bloom time greatly affects insect activity. Usually, there is very little flight of bees when the temperatures are colder than 60 or 64°. When windy weather prevails and the wind blows at more than 20 miles per hour, cross currents and eddies are set up which are avoided by the bees. When bees are distributed through an orchard, they should be placed in groups of from two to six colonies in a location depending upon the size of the orchard; its protection from strong winds by either hills, woods or windbreaks; and its convenience to roads. Usually, the colonies are placed with the entrance facing to the South or East. Frequently, the colonies are located near the varieties of a pollenizing kind so that the pollen from these trees may be readily distributed to other parts of the orchard. When windy, cold, rainy, or cloudy weather prevails at bloom time, it is the fruit grower with the largest orchard who needs honeybees for pollinating his fruit crop most. Under these conditions, the wild insects available are usually wholly inadequate to effectively pollinate the vast expanse of bloom.

Two branches of montmorency cherry tre showing the difference in the set of fruit as t result of honeybee visits to the blossoms. T insect pollinated tree produced 11 times as mu fruit as the wind pollinated tree.

ADEQUATE STORES AND WIND PROTECTION

This yard of 117 two-story hives had three tons of honey for the bees to winter on. A big snow came on Jan. 2, 1942, and all the top stories were above the snow line with 3/8-inch hole. The hives have no packing but a good windbreak on the West and North. Notice solar wax extractor in foreground.—D. J. Blocher, Pearl City, Ills.

Outyard near Hayneville, Alabama. This yard is a large one for the package shipper. Some shippers have as many as 65 yards.—Courtesy of the Alabama Department of Agriculture and Industries.

Southern Bees for Northern Blossoms

By W. E. Harrell

[Mr. Harrell, located in one of the bee shipping centers of the South, has had many years' experience in producing and selling bees and queens.—Editor]

February has brought with it the beginning of a new bee season with its pleasures and its problems.

Except for our new war-caused problems, which are mainly concerned with supply, most of our problems are related to the production of the highest quality bees and queens, and the rendering of prompt and satisfactory service. Both of these may be seriously affected by adverse weather conditions unless such conditions have been anticipated and the year's program has been set up to take care of them.

The bee season really began last fall. After the bees were prepared for winter, all hands were brought to the shop to make the cages for use in the spring and to repair and replace equipment. During the fall and winter months the materials and equipment needed for the next bee season are assembled so that when the season opens no time is lost.

The active bee season in the spring begins unhurriedly. The first concern is the condition of the colonies. In late January and early February all colonies are checked for stores. Then the leaves, pine needles, and grass are removed from the yards for protection against fire. Fire in the South is an ever-present hazard when the woods and fields are burned off each year. There is hardly a shipper of bees who hasn't lost some colonies by fire.

Wood fires are not the only way colonies are burned. Thieving is prevalent in some locations, the thieves sometimes burn the colony in their efforts to smoke the bees off the honey. Even if the colony isn't burned, it is frequently so badly damaged it is out of production that year. Occasionally thieves systematically rob every colony in the yard during the winter leaving the bees to starve. Various counter methods are employed by the beekeeper with varying results.

Queen Production

The month of March is the forepart of a period of great activity.

The heavy feeding of the cell-builders, which began in February, is continued. They must be very strong colonies when the first cells are grafted in early March. Grafting thereafter is daily for the remainder of the season. Enough cell builders are maintained that a surplus of cells can be raised. This allows us to carefully grade the cells before they are put into nuclei.

Not all colonies build cells equally well. We make an effort to select good cell-builders the summer and fall before. They are marked and brought into the queen yard in the spring. Breeding stock is also selected at this time. The breeders are selected on the basis of outstanding performance and appearance, particular emphasis being given to honey gathering, brood pattern, brood production, and gentleness.

When the queens of the first graft are nearly ready to emerge, about March 15, nuclei are established to receive them. The bees and the brood for the nuclei are brought in each day by the men who operate the outyards. The brood is put over strong colonies in the late afternoon and the following morning the bees are clustered on it. The queen breeder and his helpers now form the nuclei with this brood and the adhering bees, giving each nucleus a ripe queen cell and its first feeding of sugar syrup. Each succeeding day's cells are placed in new nuclei until the entire queen yard is established. Formation of nuclei is completed by April 4th by which time the first nuclei have nice laying queens ready to ship. On April 5th, the queens of the second graft are ready. We thus have a regular and orderly succession of queens throughout the season.

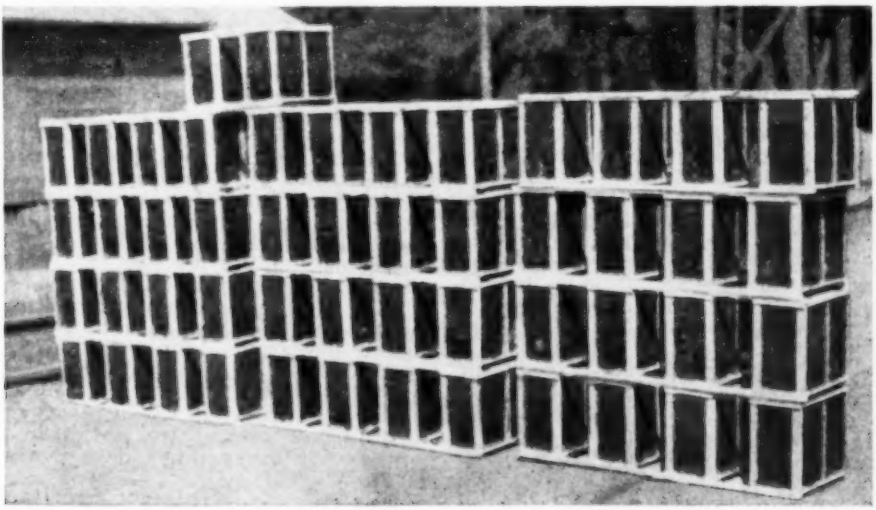
The smoothness with which queen production takes place, the number of queens produced, and their quality, depend largely on how well the cell starters, the finishing colonies, and the nuclei are formed and cared for during the spring. They must be strong and well fed. The cell colonies are fed continuously, the nuclei are fed once a week until the honey flow is strong enough to support them.

In this locality the production of the highest quality queens requires an average of ten thousand pounds of sugar to be fed a season for each one thousand nuclei and their cell-builders.

Bee Production

In March the outyards are fed to stimulate brood-rearing and by early April the colonies are strong and ready to yield package bees. The condition of the colonies in April depends to a very great extent on the care given them in February and March. Shortage of stores is likely to occur during these two months with a resulting cut in the amount of bees produced. Usually enough nectar is available in early April to support the bees. Sometimes, however, it rains for several days at this

50 2-lb. packages of bees ready for shipment.—Photo by H. C. Short



Load of bees to be taken to the express station.

time and turns cold which cuts the supply of bees and queens and makes it necessary to work night and day feeding colonies to prevent their starving.

By April 10th the shipping season is well under way and shipments are made every day from then on. In the afternoons the field men prepare for the following day's shipment of packages by assembling the crating strips, cages, feed cans filled with sugar syrup, crate handles, tags, scales, funnels, and regular working tools such as smokers, hive tools, and veils. All this material is placed on the trucks so they are ready to leave early the next morning for the yards.

The field men start for the outyards before sunup and they begin caging bees soon after sunrise. The cages are filled and weighed, the queens, which were caught the afternoon before, are put in, and the feeder cans are replaced, after which the cages are crated and reloaded on the truck. Each truck must visit two or three yards to get a full load of bees. Frequently filling the packages is carried out between showers of rain, but every effort is made to get the bees to the express office in time to tag them for the afternoon train.

The rush for packages is over by May 10th, although shipping continues until about June 10th. In order to give prompt service the shipper must plan the season carefully. He must make sure he doesn't accept too many orders for any particular day. It is a great help to the shipper in planning his season for the buyer to order early. It is also an advantage to the buyer for if he orders early there is plenty of time to agree on shipping dates. Rush orders, and requests for change of shipping date, received by the shipper after April 1st, throw the whole program out of time and often result in unavoidable delays to these parties, or at least in their obtaining less desirable shipping dates.

Late Season Demand

In June and July the demand for queens is not as heavy as earlier. The shipper at this time discontinues about 40% of his nuclei. The shipper produces more queens during this period than he has orders for so he uses the extra queens to requeen his own bees. Every colony is requeened. When the work has been completed and ten days have elapsed from the time the queens were put into the hives all colonies are checked to determine whether the queens were accepted.

In August the demand for queens is heavy as requeening is being done in the North. When this demand is over, in the latter part of August, the field men help the queen breeder and his assistants break up the nuclei. The combs are stored on outyard colonies as protection from moths during the winter. The nuclei boxes are repaired, repainted, and stacked away.

The field men now clean all yards as protection against fire, and make a similar trip every thirty days thereafter.

Montgomery, Alabama.

Dr. W. E. Dunham

Bees and Pollination

By Dr. W. E. Dunham

Research and Extension Apiarist
Ohio State University

Studies in the field of insect pollination of economic crops reveal that in commercial plantings natural pollinating insects are too few in numbers to insure profitable yields and that the only solution to the pollination problem is the introduction of hive bees. From the standpoint of the welfare of agriculture it is essential that rigid laws be maintained to eradicate diseases of bees so that a healthy honeybee population is maintained for the important task of performing efficient pollinating services for our economic plants. Almost equally important is the provision for educational work among beekeepers so that apiary management will insure profitable honey yields, thus indirectly accomplishing the more important function for agriculture, namely, the stimulation of maximum pollination activity from each colony of bees.

The economic importance of the insect pollination of farm crops has been recognized in Ohio agriculture and as a result a research program has been initiated to serve growers in the problems encountered in the production of crops dependent on insect pollination.

Research data gathered in the Ohio fruit growing districts reveal that for best production yields it is necessary in the majority of cases for the orchardist to rent colonies to insure a dependent insect population to pollinate his orchard. In all the surveys conducted in Ohio orchards it has been shown that the bulk of pollinating activity was performed by honeybees. One colony per acre will render the most dependable pollination services for fruit growers.

The importance of pastureland pollination of clovers has received practically no attention in the pasture improvement programs. In the permanent pastures, much effort has been made to increase the stands of domestic white Dutch, Kent, and Ladino clovers. All of these clovers are dependent on insect pollination to insure seed set. Even though pastureland soils have been prepared for the growing of these clovers, it is impossible to maintain stands of these clovers unless natural reseeding occurs, thus insuring an adequate seed supply in the soil to insure perpetual stands of clovers. In Ohio during the years 1930, 1934, and 1936 drouth was so severe that the shallow rooting clovers in pasturelands were actually killed. With a constant supply of seed in the soil perpetuation of clover stands is assured, since with favorable moisture conditions recurring the seed will germinate and re-establish new stands of forage. A honeybee population well distributed over pastureland areas is a very important and essential factor in the maintenance of dependable stands of clover in our permanent pastureland areas.

Practically all of our legumes are dependent on intensive insect pollination to insure high seed yields. Experimental work in western Ohio on red clover pollination revealed that for the three years of experimental work honeybees performed 75 to 85 percent of the total pollinating activity in the fields of red clover. Bumblebees, while the most efficient pollinators of red clover, were too few in numbers to insure heavy seed set.

(Continued on page 247)

Providence is Sometimes Preparedness

By Clifford A. Baltzley

[This article received in February, 1941, shows what can be done in securing an early crop when the right management is applied.—Editor]

It was the spring of 1937 and the desire to make the bees in southern Arizona produce a real crop was paramount in my mind. Operating between six and seven hundred colonies along the Gila River some 65 miles west of Phoenix, our main source of nectar was obtained from the mesquite and at a few yards from the alfalfa fields located across the river and owned by the Gila Land and Cattle Company. Four yards were situated near the Gillespie Bridge just below the diversion dam and close to one of the many Tovrea Packing Company ranches, but the others were from 16 to 23 miles across the desert over roads that had to be rebuilt each spring and where every drop of water used was hauled in five-gallon cans from the little post office town of Arlington.

Each spring beekeepers in this region had always built up their colonies on the early blooming buckbrush or squawbush, as it is sometimes called, and brought them up to top gathering strength on the later blooming tamarask or salt cedar trees that grew in jungles across the Gila River bottoms which in some places was a mile or more wide. Then when the mesquite starts the bees are really a pleasure to work with. White mesquite honey is, to my way of thinking, one of the finest both in flavor and texture, and if I were ever going to sell granulated chunks I would choose it as the best for this purpose.

The previous spring I had proceeded as had been the custom in that vicinity as far as spring management was concerned, but I had the feeling that the bees could produce considerably more honey in the spring since the spring source of honey, although not as good quality by any means was nevertheless certainly as productive as the mesquite. There might be some who challenge this but the proof of the pudding is, that the crop of the spring of 1937 was produced entirely from what had been considered theretofore as build-up flora only. And the carload of 309 cases shipped via Southern Pacific in the first week of May, 1937, from the siding near the little town of Palo Verde, was not only from salt cedar but was the only car shipped from that vicinity that year. The mesquite flow was nipped by a killing frost on the fourth day of May and not a drop of the main crop was produced that year. As the same thing had occurred the year before I determined to see what could be done in the way of utilizing the sources that rarely failed even though they were so much earlier.

How We Managed Apiaries

To begin with, at the first inspection (March 1st) all queens that did not show brood already well developed were marked for execution and replaced as soon as queens airmailed from several southern queen-breeders were received at the post office. Incidentally, some 250 queens received this way after a real flight, so to speak, from Alabama and Georgia, then trekked across the desert in a swinging basket suspended midway from floor to roof of an International bus-type van, to keep them from overheating, were by far the most important part of a successful spring build-up. As quickly as they arrived they were placed in nurse colonies and a new batch of hives dequeened. Our reason for doing it backwards, compared to the orthodox way, was the fact that we had to transport these queens from the post office after arrival to yards where spring rains had a habit of wrecking our plans and our roads. Therefore, colonies were rarely queenless more than four to five days whereas had we dequeened first awaiting arrival of the new queens there would have been some colonies queenless much longer than that.

All hives are wintered in two and three-story full-depth hive bodies, the top two generally being well sealed with honey and pollen. For years it has been the practice to carry a large amount of stores over each year for wintering as the milder winters do require more stores but we avoided considerable loss of honey from this plan by caging three pounds of bees to the package and trucking them to the northern New Mexico yards during the first week in June.

Careful spreading of the brood and pushing the new queens in this way

One of the out yards where it was necessary to beware of rattlers. This yard, as seen, is ready for supers.

by seeing to it that an abundance of stores were not only on hand but near at hand for feeding of the brood, created a harvest force of bees from the bushbrush flora alone sufficient to store from 90 to 140 pounds of salt cedar honey per hive. At the same time brood production was kept at a level that would insure practically all young bees for the mesquite flow which was anticipated about the fourth week of the cedar flow or May 1st.

As stated before, frost eliminated the main crop, but with a crew of four to extract, the hardships of hauling water long distances for camp use, and destroying from one to twenty rattlers each time we entered a yard, were just a part of the day's work. One man unloaded hive bodies from the hives, brushing the bees off with a stiff yet pliable brush, placing them on a wheel barrow which another man operated to and from the portable extracting house, hauling a load of empties back each trip to be replaced on the hives just unloaded. A third man uncapped, while the fourth operated the four-basket extractor with reversible pockets, powered by a horse and a half gasoline motor, still doing service here at the ranch. Everyone worked stripped bare to the waist.

Extracting Equipment

We used a regular gasoline two-burner camp stove for our steam producer and the pan for the reserve knives, used only when the steam knife was bleaching the combs too much, due to shallow cells. Our steamer, so to speak, was an old copper two and one-half gallon "Fyr Fyter" with an extension rubber hose replacing the short one that comes with them. By filling it two-thirds full of water and setting on one of the burners, screwing the lid down tight, we generally had sufficient steam in twenty minutes and refilled with water at the lunch hour. Our extracting house was an old American Railway Express wagon, once so familiar around the depots. An extension was made from the axle in the middle, thereby making it exactly road width, and a screen house built upon it. This was hooked on behind the International and pulled to each yard. As it was about forty inches off the ground the extractor pipe fed the 1,000-gallon steel storage tanks by gravity. Two of these were placed in each yard and set into the ground about a foot by the necessary excavating. They were covered by a large tarp and left to both ripen and settle the honey for as long as two weeks. By digging a hole beneath the spigot, five-gallon cans were easily filled and any unripe honey always came from the tank last and these cans were marked. They were consumed in camp to the best of my recollection along with

some two hundred pounds of peanut butter.

As all hives during the cedar flow were from four to five stories high, following extracting we had a week in which to can the crop. We had a little time to spare, for another extracting was necessary three weeks following the first.

The Big Flow Which Never Came

We kept busy with the work which we had let go during extracting, waiting to see whether or not the mesquite would yield again, which it did not do. After shipping one car of cedar honey we made ready to fill packages and thereby not only assisting the hives in the mountains just coming into brood-rearing but also decreasing the idle hands in the hives and saving their portion of the honey on hand for the summer, that they might be in shape for the fall flows.

The few times we were in town we heard some discouraged beemen complaining, and by all rights could have complained ourselves for we were ready to store a thousand cases had the frost not hit; but all in all, we did not overlook our earlier opportunity and, if you'll forgive me for saying it, a pardonable smile must have been on my face when the station master directed two Los Angeles buyers out to my yards, with the information that we seemed to be the only beekeepers shipping any honey from that sector that year.

Although my time devoted to bees has been considerably lessened due to ranching activities, I cannot help after nineteen years in the business seeing how the splendid opportunities from such spring build-up are being carelessly treated or totally ignored here in northern New Mexico. It was this failure to capitalize on the build-up that kept so many beekeepers poor the season of '37 along the Gila River and in the Salt River Valley.

Pecos, N. M.

[Our correspondent has demonstrated how one can by building up his colonies early, get a crop from a light early flow where weak colonies would have secured no surplus. Had the mesquite flow come on he would have had an enormous yield.—Ed.]

CANADIAN BEEKEEPERS' COUNCIL

Picture of the Canadian Beekeepers' Council taken at their Second Annual Meeting, held in Ottawa, January 5th to 7th. The Council was formed in the summer of 1940 with the object of giving honey producers a national organization to look after their interests. Each province can appoint two representatives to the Council. At present the five main honey producing provinces are represented in the Council. As these five provinces produce more than 94% of Canada's honey we consider the Council most representative of the industry.

Standing, left to right: A. T. Brown, Ontario; J. W. Braithwaite, Manitoba; W. G. le Maistre, Alberta; P. C. Colquhoun, Saskatchewan. Seated: W. R. Agar, Ontario, Past President; S. M. Deschenes, Quebec, President; R. M. Pugh, Saskatchewan, Secretary-Treasurer.

Honey in the School Lunch Program

By Mrs. Benj. Nielsen

By the time this article is in print many thousands of pounds of health-giving honey will have been consumed by under-nourished and improperly nourished American school children, thanks to government purchase of "not to exceed four million pounds

Honey can play a big part in the School Lunch Program.

of honey for the School Lunch Program."* A real boost for Nature's finest sweet in more ways than providing some much needed ready cash for a rather limited number of beekeepers. As a result of this program, honey will be consumed by thousands of users that beekeepers and honey promoters would never be able to contact (much less convince) in many years of painstaking effort. Furthermore, if we follow up and make the most of the opportunities this program affords, we can reach many parents, laying the ground work for introducing a diversified usage of honey in the homes of these children in future years, as well as now. It is a well-known fact that parents may be induced to try and to use various products through the importuning of their offspring when various other avenues of approach have proved ineffective; witness the radio programs geared especially to attract and please youthful fancies!

A bit of inquiry brought a number of interesting facts to light, facts which should furnish us plenty of material to work with as we embrace this very fertile field of possibilities. In some of the rural schools the teacher has assumed the responsibility for preparing the various surplus commodity foods made available by the government; in others, the mothers of the children take turns at doing the necessary cooking in the homes and taking the foods to the school building; in one community a deserted farm building is being used as a cooking center; in one high school the home economics teacher directs the preparation and serving of this food by designated pupils. Do a bit of investigating, folks, in your own communities. Find out what methods are being used, contact the leader or leaders in each case and supply them with A-1, yet simple and economical recipes for using honey in these lunches; offer various suggestions concerning the many uses to be made of honey in cooking.

Further investigation showed that much of the honey received to date has been used as a spread for bread—about the only way too many folks think of for using honey. Some of the mothers had used a portion in baking cookies; some of the teachers had mixed honey with peanut butter (another surplus commodity), for use on breads.

I next sought a list of the various other surplus commodities being offered with the idea of using honey in the preparation of as many of these foods as possible. At that time the following were listed: apples, dried prunes, lard, whole wheat flour, graham flour, pork and beans, navy beans, salt pork, evaporated milk, dried milk, canned tomatoes, peanut butter, and honey. The Center had also dispensed grapefruit juice and grapefruit segments. What

* On account of war time rapid advance in the price of honey the S. M. A. were unable to get honey this year but they got it last year so that Mrs. Nielsen's remarks will apply.—Ed.

a wealth of possibilities for using honey!

The apples, no doubt, will be eaten raw. However, they could be worked into apple sauce and sweetened with honey; or baked, stuffed with honey-sweetened stewed prunes. Should the flavor of these apples not be quite so pleasing as a result of having been in storage for some time, this idea should prove a good one. The sugar rationing should further help in this regard. Folks may HAVE to use honey more and more in sweetening —and what a healthful, wholesome sweetening to have thrust upon an inadequately, improperly nourished portion of our population!

The use of honey with whole wheat and graham flours in making breads and muffins results in most wholesome taste and health treats. Navy beans, salt pork, and honey spells honey baked beans! Ummm! Evaporated milk goes into cocoa sweetened with honey. Honey and peanut butter make an excellent spread. A bit of honey added to canned tomatoes, be they eaten cold or hot, steps up the taste considerably. And honey can do wonders for that sour, sour state of canned grapefruit juice and grapefruit segments. Lard? Well, gingerbreads and cookies are other possibilities sure to make a hit with the children. Regardless of what it may be combined with, honey furnishes quick, wholesome energy with no "hang over" after-effects. It is a real aid in building healthy bodies and alert minds—two prime requisites for health and vigor.

Chatting with the dispensor at the Surplus Commodities Center, I learned with regret that all of the honey received has been granulated. A most regrettable fact! Digging granulated honey out of sixty-pound cans is no joke—no child's play either. And when he had dug out the honey and packed it into the small containers furnished by interested teachers his hands were a mass of blisters and his clothes were sticky from head to, and including, his shoes. He knew how to liquefy the honey all right, but no facilities were available for this undertaking. It would be much more advantageous, help our cause immeasurably, if this honey COULD be received in liquid condition.

As a rule, recipes or suggestions for the use of each particular commodity are supplied for distribution at the time these commodities are signed for and packed. However, no such aids had been received with the honey supply. And he admitted he knew very little about the various uses possible. Consequently, I gave him a number of ideas and suggestions to be passed out with the honey dispensed.

Let's get behind this splendid program, folks! Let's do our bit to foster increasingly attractive ways of using honey in the school lunch. Let's see that this material is made available where it will do the most good. Here is a golden opportunity to quite painlessly educate folks in using honey for something more than merely a spread for bread and hot biscuits. Let's push honey out of this too-long-used rut! Well-directed efforts are bound to result in golden harvests and ever increasing returns in future years, if this opportunity is properly handled NOW.

The following recipes are especially adaptable for the School Lunch program:

Orange All-Bran Honey Tarts

One-half cup butter, ¾ cup honey, 1 egg, ½ cup Kellogg's All-Bran, 1½ cups sifted flour, 1½ cups graham flour, 3½ teaspoons baking powder, ¾ teaspoon salt, ¼ cup orange juice, 2 teaspoons grated orange rind, and colored sugar.

Blend butter and honey until light and fluffy. Add egg and beat well.

Orange All-Bran Honey Tarts—Courtesy Kellogg Co.

Add All-Bran. Sift flours with baking powder and salt and add to first mixture alternately with orange juice. Stir in orange rind. Chill. Roll out dough to about ⅛-inch thickness working with a small amount at a time and keeping the remainder chilled. Cut into fancy shapes with floured cutters; sprinkle with colored sugar and bake on greased baking

(Continued on page 250)

Saving and Producing Beeswax

By M. J. Deyell
Manager of The A. I. Root Co. Apiaries

During 1917 and 1918 of the last world war I was producing honey commercially in the raspberry region of Michigan. In 1917, the price of honey and wax began to rise. Late during the fall of 1918 I secured 22½c a pound for white honey, 20c for buckwheat honey, and 41c for beeswax, f.o.b. car, shipping point. Sugar was being rationed in one and one-half pound lots at 30c a pound. It was little wonder that honey and wax prices sky-rocketed.

It would be interesting to actually know how much beeswax is wasted annually. Who has not seen bits of wax strewn here and there through the apiary and workshop?

During those years in Michigan, with wax worth 2½c an ounce, I tried to avoid wax wastage. When checking through colonies I carried a 10-pound friction-top pail. Every particle of surplus wax was put into this pail. During the main honey flow pieces of burr-comb (some containing honey) were put into this pail. It was surprising how quickly the pail was filled.

On the south side of my honey house I kept a small sun wax extractor. Each time the pail was filled with bits of wax and burr-comb the contents were emptied into the sun wax extractor. Old Sol certainly did a splendid job of separating the wax from the honey. I usually visited this piece of equipment early in the morning before the sun appeared. I'll never forget those chunks of clean yellow beeswax. During the heavy honey flow when pieces of burr-comb filled with honey were found, they were put into the wax extractor. The thick honey with the waxy flavor was kept for our own table use.

It should be said that combs put into the sun extractor were what we commonly call virgin combs and did not contain cocoons, as do old combs that come from brood chambers. A sun wax extractor will not handle old brood combs satisfactorily. They should be put through a hot water wax press to secure the maximum amount of available wax, but that is another story we do not have space for this time.

What About Major Emphasis on Wax Production?

Since there is such a demand for wax at present and a possibility of not enough to meet this demand it is natural to investigate the field of wax production. But before suggesting some methods, just a word on how many pounds of honey a colony must store in order to make one pound of wax.

Just recently we submitted a number of questions on wax production to James I. Hambleton, Senior Apiculturist of U. S. A., Beltsville, Maryland. His reply throws some light on this quantitative ratio existing between honey and wax. There appears to be a wide variation in the estimates arrived at by different experimenters. We quote the following from Mr. Hambleton's letter:

"According to A. J. Cook, 1892, eleven pounds of honey are necessary to secrete one pound of wax.

"Charles Dadant, 1886, thought that bees require 10 kg. of honey to make one of wax.

"According to the experiments of the German beekeeper, Berletsch, it requires 21 pounds of honey without pollen to make one pound of wax, and it requires 11 to 12 pounds of honey mixed with pollen for the same production.

"DeLayens, by allowing full liberty to the bees to go outside as usual, found that only 6.3 kg. of honey for one of wax."

According to the 1940 A B C & X Y Z of Bee Culture the amount of honey used in making one pound of wax does not much exceed six or seven pounds.

Feeding Honey to Produce Wax

Some years ago, in regions giving an inferior quality of honey, it was thought that the feeding of such honey for wax production might be feasible. It seems that some work along this line was done in Hawaii about thirty years ago, but so far as we know, the project was not completed. It would appear that feeding honey to produce wax is not profitable.

Feeding Sugar to Produce Wax

Beekeepers who receive combless packages of bees from the South in

the spring have observed pieces of comb built in the shipping cages, near the sugar syrup feeder cans. The wax is pearly white. This occurs usually when bees are shaken into the packages during a heavy honey flow.

The abundance of food and the sugar syrup in addition to nectar in the honey-sacs of the bees appears to encourage wax production.

In 1918, D. J. Davis, a student at the Iowa Agricultural College, wrote a thesis for his Bachelor of Science Degree. Some of his conclusions were:

(1) That the average colony without exceptionally good weather conditions in the way of temperature, will consume on the average, 16 pounds and 9 ounces of sugar in secreting one pound of wax.

(2) That the wax selling at 40c a pound (as it did in 1918) it was demonstrated at best that that figure is only one-third of the cost of its production. With sugar at 8c, beeswax should sell at $1.25 per pound or even higher, since honey is a food ordinarily used in its production and honey is always higher than sugar in price.

And, incidentally, Davis found that it requires more pounds of sugar for old bees to produce a pound of wax than for bees of average age and that young bees can produce wax more economically than old bees.

Right here it may be observed, parenthetically, that a prime swarm, which, by the way, consists largely of old bees, or at least, bees old enough to fly, when hived on frames with full sheets, or even one-inch starters, will produce a surprisingly large amount of wax, in comb building. This may be due, in part at least, to the fact that little brood-rearing is in progress until combs are built for the queen to lay in, and, consequently bees that are not young concentrate on comb building.

Can We Produce More Wax—Profitably?

I should like to have it plainly understood that what I shall have to say on this subject is based on theory and not practice. Like some other beekeepers I am groping about for ideas.

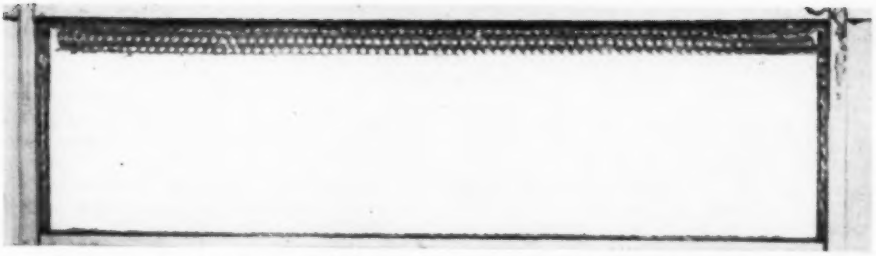
Beeswax might be rationed for other than military use. If so, here I am, approaching the coming season with not enough combs for increased honey production. Fortunately I do have about two supers with drawn combs for each colony. However, if the season is favorable for honey, the number of supers I have will not be enough. I have some empty supers with empty frames and this is what I propose to do, and I may do it as an experiment even though I am able to get comb foundation:

After using what supers I have, during the major honey flow, I will put on these supers containing empty frames. During a good honey flow the bees will enter these supers and begin building comb and storing honey. My supers with frames have been used previously and have the odor that attracts bees. What a strong colony, during a heavy honey flow, needs is space in which to build comb to store and ripen nectar. Bees have been known to build combs under the alighting-boards of hives and store these combs full of honey. I actually have seen bees fill an empty comb that leaned against a hive, close to the entrance. This happened during a very heavy honey flow when the bees had filled all available comb space inside the hive.

If bees should hesitate about entering this super with empty frames, a comb of brood may be raised from the brood chamber below, into the center of this super in order to attract the bees upstairs. This comb, when filled with honey, may be extracted or saved for bee food.

Now, you may ask, how will I handle these supers of honey in order to salvage the wax and honey. Obviously, the combs are likely to be built crooked and criss-cross. I would expect that. Well, I would plan to use a radial type honey extractor with a screen on the side and bottom of the reel, such as is used for drying cappings. I would cut the combs out of the frames and let them fall into the extractor. Combs would then be chopped or mashed thoroughly, in order to release honey from the cells of the combs. This procedure would make it unnecessary to uncap the combs. The mushy mass of chopped up and mashed combs would then be whirled at a high rate of speed, and most of the honey would be released from the combs by centrifugal force. The dried combs would then be rendered into wax. By this method I would be producing the maximum amount of wax, and, incidentally (during a favorable season) a fair crop of honey.

During the late summer months I wouldn't need to worry about supers



Shallow extracting frames with comb cut out except about one inch at the top. This gets bees started in the super.

of good combs, not in use, being riddled by wax moths.

In my opinion, this method would be better adapted to the use of deep supers than shallow supers.

Another Proposed Method of Wax Production

This consists of using shallow supers with frames containing 1-inch top starters to encourage bees to start and build straight combs. At least, frames should be fixed this way the first time they are used. These combs, when filled and ready to extract at the close of the season should be uncapped and put through the honey extractor in the usual way. Being unwired, they will require careful handling to avoid breakage. However, a few years ago, when producing cut comb honey in shallow frames, I found that such unwired combs can be put through a radial extractor without breakage.

After the combs are taken out of the extractor they may be cut out and rendered into wax. Here is a little trick to be remembered when cutting out a comb: Leave about one inch at the top of the frame to serve as a starter for the following season. Bees will start work on such combs readily during a honey flow. The accompanying picture shows the rows of cells left along the top-bar.

If some beekeepers over the country decide to try these suggested methods during the coming season we shall be glad to hear what success they have.

Ration of Wax from Cappings to Crop Secured

During the past twenty years, in operating a number of the Root Company apiaries for commercial honey production, we have found that the amount of wax secured from cappings amounts to approximately one and one-half pounds for each one hundred pounds of honey. For example, when we secure 50,000 pounds of surplus honey, as we have done frequently, we get about 750 pounds of wax from cappings. We space our extracting supers nine combs in a ten-frame super. If the supers were spaced eight combs to the super more wax would be secured from cappings.

Assuming that a deep super, well filled, contained fifty pounds of honey, the cappings from the combs in this super would give about three-quarters of a pound of wax.

It is estimated that the wax secured from a 10-frame deep super of empty drawn combs amounts to about two and one-half pounds. It seems obvious that a possible two and one-half pounds of extra wax that would be secured by cutting the combs out of the frames is worthy of consideration, especially if the present price on wax continues. Two and a half pounds of wax at 40 cents a pound amounts to $1.00. The entire amount of wax , including the cappings, from a deep super would amount to about three and a quarter pounds and this, at 40 cents a pound, would be $1.30.

The lack of starters of comb foundation or drawn combs would reduce the honey crop materially—at least, we think we know this to be a fact. However, with the emphasis placed on wax production, at present prices, and with some short cuts in labor incident to this type of honey and wax production, is it possible that beekeepers could, if need be, make a profit, without the use of drawn combs or comb foundation? Time may reveal the answer.

Our country needs beeswax. It is a necessary war material. It isn't a matter of what we would like to do, but rather what we must or should do in the present emergency. At least, we can save a great deal of wax that might otherwise be lost and it seems probable that we could produce considerably more wax than has been produced.

How I "Almost" Reared Some Queens

By Ernest Finn

Last summer I had eleven colonies of bees and it seemed to me that it would be a lot nicer if I had a few more, so the "ways and means committee" started work on it and decided that buying bees costs more than raising them. Subsequent events proved that my decision was not 100% correct.

"Now," I said to me, "what we need is some nice home-grown queens, so why don't we grow us some? The books say it is easy."

So I got out my books to see exactly how it is done and right away I found out that there was an article in Gleanings, June, 1941, all about queen-rearing for the man who wants only a few queens. "Why," I said "that's me."

So I read the whole article through and although there seemed to be a lot of "phenegling around" about it, I noted that after one had some queen cells accepted one could put the queen in the upper story and put the queen cells in the lower chamber, protected by a queen excluder.

"Gee," I said, "that's nice. The queen keeps right on laying and we get our queens almost without disturbing the normal routine of the hive."

Well, the article said one should first separate the upper and lower brood chambers of a strong colony with a queen excluder, confining the queen in the lower chamber, and after five days when all the brood in the upper chamber was sealed, one should put a clean, empty brood comb in the middle of the brood chamber of some other desirable colony to get some good larvae.

I did as it said and put the queen down below and after duly waiting the five days I selected a good comb with foundation because I somehow managed to remember that if I used one of my others with vertical wired foundation I wouldn't be able to cut the comb in strips later as the article said.

Four days later I set the lower chamber of the first colony mentioned on a stand a few feet away, keeping the queen with it, and put the upper chamber on the old stand. Then I opened the hive in which I had put the comb and looked for the pencil mark I had put on it.

"Ah," I said, "there it is. This is going to be easy."

But was it? I pulled the frame out, expecting to find the comb full of young larvae and instead, what did I find?—it was full of honey!

This was quite a jolt and for a moment I didn't know what to do but presently I decided to take the next comb instead. I closed the hive and hurried around the barn to the shed where I had set up my "operating table".

With the Gleanings article in front of me so I shouldn't make any mistake I started to cut the comb into long strips of cells with a razor blade, just as it said. It took several light strokes to cut down to the midrib and then I heard a metallic sound as though the razor blade was scraping on metal. It seemed to come about every two inches so I looked to see what it was. Oh, dear, crimp wires! I had a comb with wired foundation after all!

I had made up my mind that that was the colony I wanted to breed from because some of the others were a bit "hot" to handle and I knew all the combs in that hive were crimp-wired so I decided I would have to do the best I could with the one I had if I were going to do the job at all. It was quite impossible to cut the comb into long strips because it had four horizontal wires and vertical crimp wires and, boy!—how the "crimps did hold!"

The best I could do was get short sections of about six or eight cells and this wasn't serious, except for the fact that it took much longer than it would have, had it been possible to do it the other way, because they had to be cut up into individual cells, anyway. I fastened these individual cells to the underside of a frame top-bar by dipping a brush into hot beeswax, placing the brush on the top-bar, and then placing the cell on the brush, pressing the cell into the wax and withdrawing the brush, as directed. This is quite a trick if you can do it, because the wax has a most unpleasant habit of setting before you get the cell just where you want it. When I finally managed to get about sixteen or seventeen on the bar I covered it with a cloth and proceeded to the

upper chamber of the hive on the old stand. I put the top-bar with the queen cells in it and closed up the hive.

Now "according to Bain" (the article was written by Mr. J. W. Bain), one is supposed to return the next day, set the upper chamber aside, return the lower chamber to its original position on the old stand, remove the queen and a frame of bees, and put the queen-cells bar in its place. The upper chamber was then supposed to be put on again, separated from the lower one by a queen excluder and the queen and frame of bees put into the space left by the queen-cell bar.

I didn't like this. The bees didn't seem to like it either. Every movement caused them to express their feelings with stings, to the detriment of my feelings. What made it worse was that I had two supers on top to move, too! I couldn't see what difference it would make whether the queen cells were in the lower chamber and the queen in the upper, or vice versa, anyway, especially since the normal place for a queen is in the lower chamber below the queen excluder. Maybe that's where I went wrong, but anyhow, I decided to short-cut and leave the queen in the lower chamber and put the upper chamber back on top, the queen-cell bar with it. Then I put the two supers back on top, too.

Nine days after, I opened the hive "according to plan" as the Germans were saying every day last fall, confidently expecting to find some nice luscious queen cells, but what did I find?—a nice luscious comb of honey, not quite completed, it's true, but pretty good, for a' that! The bees had evidently decided the old queen would do for another season, seeing there was a war on, and anyway, what did they want queens in the supers for?

Etobicoke, Ontario.

AMERICAN HONEY PRODUCERS' LEAGUE

By James Gwin, President

What is the matter with the American Honey Producers' League? This question has been running through the minds of the countless honey producers for years. These same producers should ask themselves the same question. What is the matter with me? It is a fact that the League has degenerated to a point where its significance is almost nil. Now let's see what is wrong. In the past ten years or more, practically every one interested in beekeeping has been directing attention toward the building up of the American Honey Institute. That is fine. It has a worthy cause and is doing a wonderful job.

The package bee people have been directing their attention toward the building up of the Southern Beekeeping Conference. That is fine, and more power to them.

The packers of honey and manufacturers of bee equipment formed an organization at the Niagara conference, which is fine, too.

You can readily see that with the building up of these three organizations that the honey producers' interests are badly neglected. His interests are not so badly neglected as his organization, namely, the American Honey Producers' League. Here we have an industry made up of approximately 800,000 beekeepers, yet less than 50 are paid-up members of the American Honey Producers' League.

Gentlemen, you are going to get it straight from the shoulder:—Some of you are complaining about a low ceiling for honey. How can the League send a man to Washington, D. C., to represent your interests when we have less than $200 in the treasury, and less than 50 paid-up members out of 800,000 beekeepers? If the membership of the League was one-tenth of the actual number of producers, you would have no cause to worry about the honey ceiling price as the War Production Board and O. P. A. are very friendly toward agricultural interests. The packers and manufacturers are represented in Washington because they are paying the bill. More power to them, too.

Mr. Producer, after the proposed ceiling goes into effect and you dislike it, just go to your bee yard and sit down on an empty hive body and crab. When you learn that will do no good, go back to the house and send your dues of $1.00 for membership in the American Honey Producers' League to Mr. John Conner, Caldwell, New Jersey.

At the Niagara meeting, when the suggestion was made to discontinue the League, your protests (mine,too) were loud and furious. I accepted the Presidency with the idea of having your support. How about it?

Bees Will Entice You

By George W. Funck

One Saturday as I arrived at the farm on my usual week-end visit, Martin, the farm hand, was there to greet me as was his custom; to carry my bag and the while explain how very, very hard the work was, how he was working his fingers to the bone, had no time for recreation, and, on occasion, to twaddle a modest raise out of me, as he explained that he was barely getting along and had to have more money. On this particular occasion it was different, a very pleasant variation. He announced that there was a swarm of bees on a fence post in the pasture, so big, indicating about the size of a bushel basket. I looked straight at Martin, feigning a little surprise, and said "And why don't you get those bees, Martin? Think how nice it will be when we have our own honey for buckwheat cakes and hot biscuits. Better get them pretty soon; they may fly away." From the hesitation and expression on Martin's face it was evident that he did not know how to go about that job, and was groping for a way out. "Sure, I would get them, only we have no hive to put them in."

My knowledge of bees was very limited. I knew they were classified as hexapoda, known to entomologists as Apis Mellifera, that the domesticated ones were used for the production of honey, and that they had a vicious sting. Also that a Dr. Beck in New York City was treating arthritis by means of bee stings, at so much. But I did not want Martin to know about my ignorance regarding bee culture, so I sparred for a little time by saying I had a few things to do in the house, and then we would take care of the bees. The few things I had in mind were how to get or build a hive in a hurry, and then how to get the bees into it.

My library was devoid of practical information about bees. Several encyclopedias were of no help, so I started working on the telephone and eventually got in contact with a man who had kept bees and had an old hive that he was willing to part with, and he also supplied the information on how to hive a swarm.

The way to do it, he said, was to wait until it was dark, sweep the bees into a gunny sack with whisk brooms by the aid of flashlights, close the sack by tying at the top, and then dump the bees into the hive with the top removed, on the spot where we wished to keep the colony. I would need a couple of helpers. I was also warned, that no matter what happened, under no circumstances was anyone to strike at a bee lest the entire swarm be aroused and all set upon us.

To this day I do not know whether this man was a practical joker or was just misinformed, but he certainly could not have hived many swarms by that method without serious results, especially without the protection of a bee veil, about which nothing had been said, and I did not know about.

Natives here are not much different than people elsewhere, city or country, except that possibly a larger percentage suffer in a greater degree from an inferiority complex, and this man may unconsciously have grasped the occasion for escape.

A beneficent deity must have hovered over Dell, my brother-in-law, Martin, and me as we got those bees that June night. Bees are usually irritable and inclined to sting after dark, even when swarming. The swarm was in a meadow some distance from where we had placed the hive, not far from the house. The bees were all nicely bunched in a big ball on the fence post, but not the mosquitos. They were everywhere in hordes, and the females must all have been pregnant, for they started to work on us with rare zest, and none of us being able to distinguish a mosquito bite from a bee sting, we let them feast, well remembering the warning about not striking at bees. It was my job, as I was giving all the directions and was supposed to understand about bees, to use the whisk brooms to brush the bees into the sack held by Dell and Martin, and also to carry the bag to the hive and dump the bees into it. The only illumination was a couple of flashlights. We soon discovered that bees do not brush like so much wheat or corn and almost immediately all the available parts of our anatomies were covered with bees in addition to the mosquitos, the bees crawling hither and yon undisturbed in and

out from under our clothing. My urgent inclination was to throw up the job and call it a day, but that would have set a bad example for Martin, and I persisted.

When the task was eventually completed and most of the bees had been deposited in the hive, not one of us had even a single bee sting, but mosquito bites, well, we were literally covered with welts. That we escaped the bees is one for Ripley. I have hived many a swarm since then under favorable conditions and by proper procedure, and a sting or two is not uncommon. I knew nothing about the importance of the queen, but must have gotten her into the hive, for the colony prospered and produced a goodly supply of honey, and it was also the beginning of my venture in apiculture.

The production of honey as a commercial proposition appealed to me. Here is the way it looked to me at the time: The bees had cost us nothing, they would produce several swarms each summer, and these swarms in turn would produce more swarms and so on ad infinitum. Why, it was easy to figure, even if each hive had only three swarms a season, in only four years we would have well over one hundred stands of bees.

I was also told that from 100 to 500 pounds of honey, and even more, was the yield from each hive per season. Simple arithmetic told me that in four years we would be producing anywhere from 5 to 25 tons of honey a year, and after that, well, there just was no limit. At the price we had paid for honey all these years at the grocery store, that would be a sizable income. Here was the opportunity and I would not let anything like that slip by me.

Other features about all this were even more alluring. Bees are the busiest of insects. From dawn to dusk they spend all their time collecting nectar and converting it into honey and they even work in the hive at night. And, oh joy, they receive no pay for all their hard work. They do not even ask for it, and so there are no strikes for an increase in pay or shorter working hours. Bees just want to work and slave and toil for the pleasure of it. There are no union troubles of any kind; no jurisdictional disputes, no walking delegates, no shakedowns. All these annoyances are out of the bee picture.

It isn't necessary to feed the bees, they forage their own food. They know nothing about the ownership of real estate and so they roam far and wide in search of nectar, often several miles, and it isn't necessary to own the land from which the honey comes. It was difficult to imagine a more beautiful picture and I needed no high pressure salesman to convince me. I sold myself on the idea.

As I visioned honey in the plan of our "subsistence farm", chickens, other poultry, cattle, and fruit crops lost much of their appeal. In comparison they seemed blundering efforts in producing cash returns, especially when the investment was figured.

I realized that my enthusiasm was a little ahead of my knowledge of the technique of honey production, so I set about to correct that little deficiency. For months I spent my spare time in Chicago at the Crear and the public libraries and read everything available on the subject, and that was quite a bit. I thought I would also need something at home for quick reference, so I bought some books on bee culture and subscribed to the bee journals. I was then all set to let nature take its course and set me up in the honey business.

For one with an investigative turn of mind along with some power of observation and the necessary time and inclination, the study of bees is absorbingly interesting. Many volumes have been written on the subject and still much is left unwritten. The first surprising fact to me was the similarity in many respects of the behavior of bees to that of human beings. Like men and women, bees work, play, loaf, sleep, rob, steal, fight, and even kill, and on occasion seem to laugh.

The work and life of bees is specialized, like ours, and in some particulars even more so. The queen of a colony and one male (drone, a hive may have hundreds of them) handle the entire problem of reproduction, the one queen sometimes producing many thousand offspring in a day, the drone playing the preliminary role of fertilization just once and then the queen is set for fertile egg laying for life, which may extend over several years. With bees there is no difficulty about sex predetermination. They produce completely developed females (queens), males

(Continued on page 252)

From the Field of Experience

BEEKEEPING FOR A PASTIME

By Rev. Casimir Toliusis

A garden of flowers is not complete without a few colonies of bees. Flowers and bees were created for each other and it is not right to separate them. There are many flowers and flowering shrubs on St. John Sanitarium grounds. The bees arrived in June, 1937, and ever since I have become a keeper of the bees. Some of my most pleasant moments of diversion have been spent with "the golden throng".

A combination of sunshine, bees, and flowers makes a wonderful setting for relaxation. It is something different from daily routine of those who do most of their work indoors. It takes them outdoors and transports their thoughts from common everyday affairs to exclusive subjects—subjects known and understood by comparatively few.

The inside of a beehive is a mystery to many. The life cycle of the bee is a closed book to most people. The wonderful correlation of insects and flowers and their adaptation for each other are observed by very few.

Rev. Casimir Toliusis, of St. John's Sanitarium at Springfield, Ills.

The art of handling bees without getting stung is looked upon as magic. Few know how nectar is gathered and honey ripened, how wax is produced, or what purpose the pollen and the propolis serve in a colony of bees. Consequently, one who is conversant with these subjects receives immediate attention. He has almost inexhaustible material for interesting conversation about topics that people like to hear as they know so little about them.

And the bees repay their keeper not only by enriching him mentally but materially as well. Most forms of recreation and diversion are all expense and bring no material returns. It is not so with the bees. With proper and timely care they pay rich dividends. One job in connection with the beekeeping that I enjoy in particular is removing the supers filled with honey—yellow liquid gold sealed in white wax cells. Honey is brought home, uncapped, and extracted. Then it is put through a strainer to separate particles of wax. Now you see transparent crystal-like liquid flow into glass jars scenting the room with fragrance of sunbathed fields and fresh flowers. Everybody who sees this process is enthusiastic about honey; everybody likes it and wishes to have some.

In order to secure more honey, last June I moved 15 colonies of bees nine miles away from the sanitarium and put them on a 70-acre field of sweet clover. It was a very beautiful pasture for them. The only drawback was that I had to take them off the field by the first of August, when the owner wished to plow under his sweet clover. We experienced some difficulty loading hives on the truck on those warm July nights, as the bees clustered on the outside. But since we had removed most of the honey, we succeeded in driving the bees inside with the help of a spray of cold water, some dry ice under the hives, and the use of smoke. Our returns for this experiment were 106 gallons of extracted honey, and some 600 sections of fine comb honey. This may not look so impressive to professional beekeepers, but as an amateur I considered my pastime quite well rewarded.

Springfield, Ill.

THE BAIT TRAP PROGRAM FOR OUTSMARTING NOXIOUS INSECTS

By J. S. Houser
Chief, Department of Agriculture, Ohio Experiment Station at Wooster

There is just a shadow of truth in the clipping which accompanied your letter of September 26th, but the shadow is so faint that to publish the article would not be quite fair to your reading public.

Outsmarting insect pests through the use of attractive substances has been a goal long sought by entomologists. If it could be accomplished it would constitute one of the most outstanding victories in insect control. The whole bait trap program which has been tried so extensively for codling moth, Oriental fruit moth, and others, is based on the general principle of attractants. You will recall, however, that attractants are not used as control measures for these two insects, but because pails so baited attract some moths to them, the bait pail device is used in some places to determine the time of moth appearance and is used for the timing of sprays. On the other hand, attractant substances have been employed for incorporation in grasshopper baits. Such baits are rendered so attractive to grasshoppers that they may be drawn from soil crops to feed to their death on the poison substance in which the attractant is incorporated. Another example which yields a partial degree of success is the use of Geraniol in Japanese beetle traps. Traps so baited will protect to some degree nearby valuable plants, but cannot be depended upon as a means to reduce populations of Japanese beetle in any given area because the traps do not capture more than from 40 to 80 per cent of the beetles within the habitat.

Some time ago when I was asked, what in my judgment would be the most desirable subject for investigation from the standpoint of insect control, by the Chemurgic Council of America, which as you know has been sponsored by Henry Ford, I replied that an exhaustive study of attractants and repellents would be my first suggestion.

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HONEYBEES SERENE UNDER PERILOUS CONDITIONS

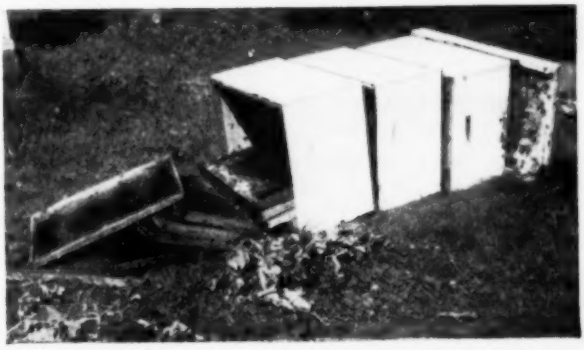
By Clarence Tontz

The picture below is of a hive of bees molested by honey thieves. The prowlers undoubtedly were stung and either accidentally or maliciously toppled over the hive with its two supers of honey. As shown, the honey was exposed to robber bees (there were about 60 other colonies of bees in this particular out-apiary), but the workers quickly carried in the honey from the combs scattered on the ground and packed it in the brood chamber where they could better guard it. To make matters worse, the bees with their hive asunder were subjected to a torrential rain.

However, when we arrived on the scene a few days later the colony had judiciously adapted itself to its wrecked home. The field workers were working industriously, going in and out of the topsy-turvy entrance.

As we straightened up and examined the colony we feared for the queen, that priceless mainspring of the colony. Surely she must have been killed, or injured so that her egg-laying ability would be greatly impaired. She was not injured. She was laying well. Her egg-laying program, it appeared, was geared up even higher than under normal conditions. The bees were instinctively motivated by their perilous condition to quickly strengthen their forces.

Stillwater, Okla.



When this hive was attacked by thieves it is safe to assume that the bees resented such treatment and attacked the robbers in their turn.

DON'T FOOL WITH AFB

By Milton M. Eggert

When the bee inspector comes around and discovers AFB in your bee yard, he may not stand over you with a club and watch you burn the frames of the hives so infected. Don't get the idea you can be smart and melt down the wax from these frames. If you try this you are in for a lot of trouble. I tried this and it was three years before I got cleaned up. As careful as you may be you will be dropping honey and wax around. The bees from your other colonies will soon find it and you will have more AFB on your hands. One can not be too careful. AFB should be treated as any other contagious disease. It cost me many times more than what I received from the wax I rendered out of the AFB combs. It was a costly experience. It is hard to destroy that fine drawn out comb, but it is the only safe way in eradicating AFB.

Grand Meadow, Minn.

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PRIORITY ASSISTANCE FOR BEEKEEPERS

Farmers may use A-10 rating on material needed for repair and upkeep of machinery. Priority assistance for the repair and maintenance of agricultural machinery in the hands of American farmers has been made available by an amendment to the repair and maintenance order issued February 10 by the Division of Industrial Operations.

A farmer who repairs his machines himself, or the repair man who does it for him, may now use an A-10 rating on his orders for necessary materials, the nuts and bolts to major repair parts. The rating may not be used, however, to obtain or replace items of capital equipment.

The above order will no doubt apply to the commercial beekeepers who can qualify as farmers. It is probably doubtful if the back-lot or hobby beekeeper will need this assistance.

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TOP ENTRANCE WITH A VENGEANCE

By F. D. Bowers

Reading in the February, 1942, Gleanings about E. S. Miller's top ventilation summer and winter brings to mind a colony of bees owned by a neighbor who expected me to extract the honey. This neighbor liked honey but was so bee shy he would not even get near enough to provide a windbreak or any other protection, as I had often suggested. This colony set up about three feet off the ground with no shelter of any kind, in a single-walled 10-frame hive with four full-depth bodies full of combs. The queen had free range in all four bodies all summer, since no excluder was used.

On September 20th I extracted the two upper bodies and left the lower two for the bees to winter on. There were 50 or 60 pounds of well ripened white clover honey and a nice lot of brood, with a young queen in these two lower bodies. They were left all winter in those two full-depth bodies with full-width bottom entrance and an old wooden cover that was so badly warped it left an upper entrance with a vengeance the whole length of the cover on the north side of the hive. This colony faced direct East and got all the sun and storm the whole year around. The colony wintered finely and the next summer produced nearly 200 pounds of honey and no swarms. Up to this time I had kept bees continuously for 60 years and would not have thought it possible for a colony of bees to winter successfully under such conditions. If they had been my bees they would have been dead long before spring.

Youngsville, Pa.

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SECOND GLANCES

By C. M. Isaacson

The two reports by Dr. Phillips (pages 137, 139) should be carefully studied by all beekeepers. They contain many suggestions of value, and show that the newly-formed National Beekeeping Council is working energetically along with other organizations to obtain essential beekeeping needs. The mention of a ceiling price for honey, discouragement of speculative buying, means for the procurement of sugar for feeding and containers for the crop, availability of tires, help, etc., are all subjects of interest. But I hope I do not correctly understand one recommendation, its implication seemingly being that the beginner and so-called borderline beekeeper (with moderate number of colonies) should either increase rapidly or quit the business. In other words be "big" or get out!

This would seem to work a severe and undeserving hardship on a num-

erous class who may depend on their apiary for a considerable portion of their livelihood; but who, for different reasons, may be unable to increase largely at once. They usually are very efficient producers—often, because of lower overhead and higher per colony averages, more so than some of the men with larger holdings. This class contains a good many of the innovators of beekeeping, those who develop the new methods that the big apiarist is often too busy to experiment with. Their loss would seriously affect beekeeping as a whole. And level-headed thinking tells us the same regarding beginners — intelligent newcomers should **always** be encouraged. I have written at more than usual length on this matter, for if my understanding of it is correct, I consider it a very DANGEROUS suggestion. I will be glad if I find out I am wrong in so interpreting it.

Gordon Bell has given us an entertaining article on his Canadian trip, and the photos included illustrate it well. His description and pictures of the "barrens" show its reputation as a bleak and uninviting territory well deserved, but he mentions considerable attractive beekeeping country (prospective) between them and the border. It is a well written account (page 142).

I once heard a beekeeper say that "wax is about the most valuable thing we produce." Mr. Wheeler's article (page 145) with its details on the many and often indispensible uses for beeswax certainly corroborates this statement. It should be well read and its advice taken to heart. That bit about the beeswax cargo still being usable after some hundreds of years on the ocean floor is certainly testimony to an almost incredible resistance, if authoritative.

Grant Morse decries the careless beekeeper (page 146). He is right in so doing. As he points out, a little extra care in having and maintaining good equipment, and with apiary manipulation, may save a lot of trouble—both for yourself and the other fellow.

I often wonder how Mrs. Neilsen can continue month after month with such a variety of attractive sounding (and doubtless, tasting) food recipes. This month they are more than ever timely—I notice very little sugar is called for.

Supersedure of queens! (page 150) With the approach of another active season, this is an important problem. Whatever the reason, the writer of this item is correct in contending that the quality of commercially reared queens is too often low. The solution would probably mean as much extra honey as any "defense prompted" measures.

G. A. Pauli mentions what should be a wise precaution for anyone dealing with A F B. This paper protection idea would seem a valuable hint.

That the source of creosote (which determines its phenol content) may directly affect its effectiveness as a spray repellent is an item which should be brought home to all orchardists and apiarists. Recognition of this will probably save expense and failure (page 151).

The item concerning the cleaning of queen excluders sounds promising (page 152). I intend to try it myself. These kind of suggestions are often of considerable help.

The editorial pages contain so much worth re-reading that they are impossible to detail here (pages 161-163). They are both briefly told and timely.

Editor Deyell gives a good reason why beginners **should** be encouraged in beekeeping—and proceeds to give them considerable helpful advice. Talks to Beekeepers is always written with good common sense (page 174; also pages 214-215 this issue).

If ever we needed to support the American Honey Institute it is now. To judge by the mail pouring into their offices, we have a golden opportunity to spread greater knowledge of honey.

Middle River, Minn.

"Well, if you had to lay 2,000 eggs a day you'd be tired, too."

Editorials

The newly revised figures on the number of colonies and the annual production of honey for the entire country are now available. See page 233 in "Just News" of this issue. These were promised some time ago but owing to the illness of Dr. S. A. Jones, of the Bureau of Agricultural Economics, their release has been delayed.

It is interesting to note that the figures for 1939, 1940, and 1941 show 20 million pounds more honey produced than the figures prepared by Mr. H. J. Clay for 1932, 1933 and 1934.

It is difficult to make exact comparisons for the earlier and later tabulations because they were obtained from separate sources and on a separate basis.

The number of colonies of bees remains much the same as formerly.

Complete tabulations for each state will be presented in our next issue.

• • •

On the question of price ceiling on honey there seems to be some misunderstanding yet. The Emergency Price Control Act of 1942 automatically sets ceiling prices on all commodities and rents. Agricultural products are priced on the basis of one of four ways: (1), 110% of parity; (2), the market price October 1, 1941; (3) the market price December 15; or, (4) the average price during the period from July, 1919, to June 1929, whichever is the higher. It seems to be the opinion that 110% of parity will be the highest of the four prices in the case of honey. The parity price takes into consideration a number of factors, the post-war and prewar prices, recent market prices and the purchasing power of the dollar. Due to the latter variable, we are told the parity price will change as living costs change so that it can not be considered a fixed price. The Department of Agriculture has been attempting to work out a formula for figuring the parity base that will apply to all farm products and until this basis has been worked out for a number of items no parity figures will be released.

It appears that no temporary price ceiling can be placed on honey prices pending the figuring of the ultimate parity price. What packers, producers, or consumers may say on the subject apparently will have no effect on what the ceiling price may be.

It seemed to us that honey producers should at this time get behind the Honey Producers League, their local Associations and State Associations so that funds may be raised and one or more members of their own choosing be sent to Washington to investigate the facts concerning the price ceiling on honey. We believe that producers on the whole will better understand the situation and the Government agencies will also better understand the producers' point of view. We doubt whether any thing that any of us say will change the final figure very much, but we believe that every group of producers would be better satisfied with a representative of their own choosing in Washington.

• • •

Small Number of Commercial Honey Producers From a comparison of figures which we consider accurate and a fair cross section of the country it would appear that less than 1% of the total number of beekeepers have 100 colonies or more. The great majority of the rest have from 1 to 50 colonies. Not all of the 100-colony men could be considered in the commercial class as they sell locally and do not send large lots of honey to the city market. The ratio of commercial beekeepers is larger in the Western states than in the East.

As stated by Inspector Reese in our last issue, of the 30,000 beekeepers in Ohio, 25,000 have less than five colonies. The most of them are intelligent amateurs and a few take a bee journal.

Comb honey producers need no metal or glass containers for their product. It should not be forgotten that the term "honey" to a large portion of our population means section **comb honey,** and remember too, that comb honey is never processed or overheated. It retains all of the original flavor in the comb. See page 229.

In some of the southeastern states some bulk or chunk comb honey is produced. This of course would require glass or tin.

Flash or pressure filtering when used to decolorize and reduce strong flavor in a dark honey may also remove some of the essential elements, such as minerals. It would then, says Chief Campbell of the Food and Drug Administration, make only a simple invert sugar syrup which he can not class as honey as it would be subject to seizure if labelled pure honey. In the past some honey packers have been taking a dark, strong-flavored honey and after decolorizing it, mixing it with a light honey and passing the blend as a pure honey.

It should be explained that a filter aid known as carbon, or bone charcoal, will lighten a dark honey and at the same time modify a strong flavored honey. But a filter aid of diatomaceous earth will clarify a honey to crystal clearness and yet not remove the minerals, colloids, or the enzymes. Honey filtered with diatomaceous earth, if directions are followed, will remain a pure honey, say Paine and Lothrop of the Carbohydrate Division of the Bureau of Chemistry and Agricultural Engineering.

• • •

Methods of Installing Package Bees It would be difficult, and perhaps impossible, to devise a method that would suit all conditions and latitudes.

Some recommend filling the bees with sugar syrup, then dumping them in front of the hive, late in the evening. Some like to hang the queen in a cage, between two frames inside of the hive, in order to attract the bees. Others douse the queen with syrup so that she cannot fly and let her march into the hive with the bees. By this method the queen is more likely to start egg-laying sooner than she would if put into an introducing cage and released, in due time, by the bees.

The method just referred to would not work well in some parts of northern Canada where shipments of bees have been known to arrive at destination during a snow storm. In that region packages are frequently installed in a cellar, where the temperature is quite moderate. The bees may be kept there for a time, until warm weather comes and then placed outside on their permanent stands.

Some leave a space in the hive for the bees by removing four or five frames. The bees in the package are then dumped into the hive, after having been fed lavishly with sugar syrup. When the bees have clustered on the combs, the frames that were removed temporarily are put back in the hive.

The important thing seems to be to adopt a method that suits your locality.

• • •

The Winter Percentage of Loss Between Certain Groups of Bees May Be Misleading Other independent factors aside from insulation have been mentioned in discussions of "wintering". There are so many of them that it is very difficult to give each its proper evaluation. The danger is that we may give too much stress on one and not enough on another.

In the matter of packing we should not forget that a man who packs his bees will see to it that all other necessary factors are present, such as young bees, plenty of food of the right kind, windbreaks, and a means for the escape of moisture.

The man who does not pack may not examine his hives in the fall to see if he has the necessary stores, or a cluster large enough to stand the winter. It is these nondescript beekeepers many of whom neglect their bees the year around who swell the percentage loss of those who don't pack. In the one case we have good beekeeping against poor beekeeping.

• • •

What is a Good Beekeeping Location? The above is a question many beekeepers are asking nowadays. Obviously it is a location that is reasonably dependable for nectar and pollen sources. It seems, however, that the best of locations fail once in a while, due to abnormal weather conditions over which the beekeeper has no control.

There are at least three types of location. One is the location that can be relied on for a good summer flow but very little nectar in the fall. Another is the location that gives a good fall flow and an occasional summer flow, and the other gives both a summer and fall flow when conditions are right.

This past season some of the good summer locations failed to give much surplus and, to make matters worse, the bees ate up a large portion of the honey left for winter stores, because of dry weather and lack of nectar

during the fall months. Some beekeepers in such regions will have to do some feeding this spring.

Beekeepers in good fall locations have been "sitting pretty". Strong colonies in such regions have stored considerable surplus as well as filling brood chambers crammed full for the winter.

And so, one wonders, in view of the season just passed, what type of a location is preferable. Perhaps migratory beekeeping is the answer to this problem. However, moving bees is expensive business, unless one is well equipped for it. It seems apparent that sideline as well as commercial beekeepers must give more attention to the matter of location for bees, and must be ready for any eventuality.

• • •

A Surprising Fact "The temperature within a packed hive, but away from the cluster, will become almost as low as the outside temperature during a protracted cold spell." So says Dr. C. L. Farrar in charge of the U. S. Bee Culture Laboratory at the University of Wisconsin, Madison. The senior editor has seen the data that he presents on this point while in charge of bee culture work in Massachusetts. It comprises thousands of temperature readings taken in the dead of winter. We hope this data can be given to the public.

This statement, if believed, will show why insulation of the hive in all cases has not shown results expected and yet it is only fair to explain that neither Dr. Farrar nor any one else who has made a study will say that packing is wholly valueless. As Gleanings has held before, too much stress has been placed on hive insulation and not enough on other factors equally or more important.

• • •

Rubber Shortage May Affect Commercial Beekeeping The second extracted honey era which began in 1906, with the coming of the pure food law, also the coming of the automobile, marked a distinctly new era. We are still in this era.

During the past three decades we have seen a marvelous development in commercial beekeeping and this has been due largely to the use of the automobile truck. Commercial beekeepers have been able to maintain yards a considerable distance from their homes. In many cases apiaries have been moved to better pasture when abnormal conditions prevailed in certain localities.

What do present conditions regarding rubber shortage mean in commercial beekeeping? Just this: That it will be absolutely necessary for beekeepers with apiaries away from the home base to plan their work very carefully, then follow this plan, in order to avoid extra mileage and labor. It seems possible that present conditions may force commercial beekeepers to follow a more economical method of management than perhaps has been followed during the past years. Most of us follow along the line of least resistance and do not change our methods until we are forced to it. This year we will have to make every move count for the most.

• • •

Safe Introduction of Queens This is one of the biggest problems in beekeeping. Many methods of introduction have been advocated and used. It seems safe to say that comparatively few are fool-proof. A method that will work this season may not work next season. What will work in one locality may not work in another locality. During a honey flow, when nectar is coming in rapidly, practically any method of introduction will work. During a dearth of nectar, or, when honey is not coming in rapidly, it is more difficult to get queens accepted successfully.

With us, queens are more readily accepted late in the fall than they are early in the spring. Populous colonies when dequeened early in the season will not, as a rule, accept a new queen readily.

We have found that dequeening for nine or ten days, and destroying all queen cells, being careful to eliminate every cell, which means shaking the bees off each comb and examining it carefully, then introducing a laying queen, is the safest method.

One trouble with this method is that it results in a cessation of brood-rearing for at least ten or twelve days. It takes a queen a day or so to get started to laying normally, after she is accepted.

L. E. Snelgrove, of Bleadon, England, in his recent book on introducing queens says, among other things, that when a queen is introduced she should not be liberated from the introducing cage for at least three days.

American Honey Institute News Notes

Our first objective is to win the war. Our second is to make peace permanent. So those of us who are serving in an essential capacity must be able to do our jobs at our maximum capacity.

That our industry will contribute to the fullest extent in this battle for humanity's sake is a foregone conclusion. The leaders in our industry sense the important part the honey industry will play to help hasten "Victory" and are sparing no effort but are working night and day that we may obtain the desired results. Our program must dovetail into the program of fairness and justice to the consumers of honey. Isn't that what we are fighting for? Fairness and justice for all?

One of the things to keep in mind is that the home must be supplied with honey. The honey must be a quality product. A quality product will pay dividends for years to come.

Let us build a program for the future second to no program ever built. Let our work each day help to hasten "Victory" and when Victory comes we will be able to handle it.

• • •

With plenty of honey available to the housewife and a copy of "Old Favorite Honey Recipes" in her kitchen library the continued use of honey is assured. We now have a golden opportunity to get more people started using our superb product. Once they start—well, they cannot help but continue. Anyone who uses honey to sweeten hot tea will be so entranced with the bouquet that he will be an addict forever. Honey on cooked cereal is, to use the term of today, something to write home about. "Honey used in frying apples, the Virginia way, is a dish for a gourmet and gourmand rolled into one," writes the manager of the News Department of one of the largest concerns in the country. Honey on ice cream dresses it up in its "Sundae Best".

I might go on and on but what's the use of all this if we do not keep the housewife supplied with honey?

• • •

A brand new, up-to-the-minute leaflet is now ready for you. The leaflet is in canary yellow stock with the drawings and printing in dubonnet.

It is especially colorful and attractive for the spring of the year.

This is a leaflet that should be widely distributed at this time. It gives general uses for honey, honey hints and honey recipes. The front page has a picture of a factory with men entering it for work. The caption below is—"ENERGY FOR THE TASK FROM HONEY." If interested, send for a sample leaflet with prices.

• • •

In order to call the public's attention to honey why not secure some of the window streamers that are now available? You may have "Honey on Grapefruit" and "The Whole Family Likes Honey" window streamers at 60c per hundred while they last.

• • •

For weeks the American Honey Institute has been literally swamped with requests from coast to coast for information on honey. When we tell you that one day's mail brought more than 400 letters you may well imagine the work the office is doing.

• • •

May we ask your help? Will you, if it is convenient, cut out the articles on honey that you see in newspapers and magazines and mail them to us? We want to be sure that your section of the country is receiving our publicity. We would appreciate your writing the name of the paper from which you clip these articles and the date on the clipping when you send it to us.

• • •

Hints to the Housewife: Why not put away the rest of that holiday fruit cake and surprise your family with it on Easter? To keep the cake, pour warm honey over it, wrap in heavy wax paper and place in an airtight container.

To liquefy honey that has granulated or solidified, place the container in a bowl of warm water — not warmer than the hand can bear— until all crystals are melted.

To store honey, keep liquid honey in a warm dry place where the temperature is 75°F. or over, or in a cold place where the temperature is below 55°F. Freezing does not injure the color or flavor but may hasten granulation. Avoid damp places for storage.

Spinster Jane Says

Today I am wondering if we will be lucky enough to get our bees out of the cellar in March, as we did last year, and be as successful with them. I'm wondering, because we are right now experiencing the biggest block-up we have had this winter. It has been snowing and drifting for three days and three nights. Were the bees wintering outside, this snow would be welcome, but in that cellar of ours, should thaws and heavy rains come, it might prove disastrous to the bees. Water, an inch or two in depth, often lingers until the frozen drain opens up, and dampness and consequent mould is not for bees. But let's be optimistic.

So far the bees are quiet and seemingly contented, apparently wintering well, and we are expecting great things of them. We hope to add another fifteen packages, too, swelling our small apiary into one of more importance.

Though the work of drawing out foundation, last year, kept the bees from storing quite as much honey, this year we should benefit from it, and I was glad to read that we had done the right thing in getting rid of all those old broken and mouldy combs.

As to rendering them into wax ourselves, and here at home, we haven't the tools, and we could not finish the job satisfactorily. We've tried it, so know what we are talking about. We used to put all our old combs, etc., into a loose cheese-cloth bag, submerge this in a boiler of cold water, set on the stove and bring to a boil, continuing until we thought all wax was melted. The bag was then pressed with wooden paddles to get any remaining wax, then removed, the boiler being set aside to cool. When cold, there was a nice thick sheet of wax over the top. But what that wax did to my nice wash boiler and wash tub, and what it did to the outside kitchen floor! And the work of cleaning up the mess it left! We women surely sputtered and scolded, and got results too. We have learned that it pays to ship it away and let someone with the proper equipment do the work for us. One gets beautiful foundation in exchange, or a check that will make you glow with pleasure.

Boy, spending his time in welding at the big smelter, would much rather be occupied with his bees and in a garden, but this is one time when the good of our country comes first, and should those little yellow men win, well, of what use would our bees and our gardens be to us! Nickel and copper must be produced, smelted, and refined, if we are to give back more than we have had to take from a treacherous enemy, whose every promise has been broken. War demands that he remain on duty.

Work goes on there seven days a week with no time off, but Boy thinks when the time comes that his bees must have attention, they will give him a short leave of absence. Honey, too, has become an important product. That is what he hopes and confidently expects, and his heart is in his bee-yard.

Other results of the war are evident. With copper, zinc, and other metals so greatly needed, many mining claims hereabout are being looked into, and should they be found worthwhile, will be developed. This would bring more work close to home, and a market for farm produce right to our doors. And a fine bit of produce from our farm, given a favorable year, should be honey in greater quantity than last year.

I have just finished reading the March issue of Gleanings, and there are many splendid things in it. That one, for instance, about the careless beekeeper. No beekeeper who isn't careful should keep bees. One should work slowly and carefully, exercising every care in loosening the frames, in handling and turning them, and in shifting or putting them back in place. The tiny bees, as well as good queens, are worth too much to be wantonly and carelessly destroyed.

We are finding it a little hard to manage on 12 ounces of sugar per person per week, but we can do it, and we will. It is one of the small ways in which we can help, and we should not grumble. Let us think of Greece and her lack of bread and the essential foods to preserve life. And our bees are to be provided with the necessary sugar, too, with 80% of what they required last fall, or something like that. I'm leaving all arrangements for bee sugar to Boy.

(Continued on page 248)

Why Comb Honey Production Should Be Urged

Shortage of Tin Cans for Extracted Honey Possible in the Future

By James I. Hambleton

[The following letter from Jas. I. Hambleton relates to the need of speeding up comb honey production and of encouraging the little beekeeper. See page 161 of last issue and page 224 of this issue. Mr Hambleton writes:—Editor.]

We are very definitely in favor of production of comb honey, particularly now that containers and other metal goods required for extracted honey may be difficult if not impossible to obtain, and the likelihood that conditions with respect to containers may become even more acute.

I presume that before long we will start a series of memoranda or something of the sort to beekeepers which we will feed through State agencies on matters pertaining to production and the like. In these we intend to discuss comb-honey production. We feel that it has a definite place in the industry and that it always will have.

The Little Beekeeper

The Department of Agriculture can not confine its service work to commercial producers, consequently we intend to give aid to the small beekeepers. They constitute an important group and are in the same category as the folks who raise their own garden produce, a movement which within certain limitations the Government encourages.

[Referring to the first paragraph quoted above, Mr. Hambleton evidently does not mean to imply that honey producers of extracted honey will not be able to get tin cans for shipping for 1942. In a later letter he writes:]

The reference in my letter of February 26 to containers refers to the future. The War Production Board has assured the industry that tin containers of 5-pound capacity and larger would be available. This was made as a definite and reassuring statement. We know from experience, however, that even the most careful estimates often have to be revised and that unforeseen circumstances can alter otherwise tranquil courses. In other words, beekeepers should not rest on their oars that they will have no worries about containers. Plans should be held in abeyance to switch to glass or fiber or even to bulk delivery of honey if necessary.

We feel that any one who has kept bees successfully, whether on a large or a small scale, could well consider increasing his output of honey and beeswax. We do not intend, however, to carry on a campaign to encourage new persons to take up beekeeping. We feel that to do so would not be utilizing to the best advantage material used in the manufacture of beekeeping supplies and equipment which, even though mostly of wood, should nevertheless be conserved. Bee supplies are apt not to be overabundant while the war is in progress and what supplies are available should go to those who can best use them.

According to Mr. Beirne, a beekeeper should be able to buy cans from his customary source. I imagine however, that next year and perhaps after April 30th of this year, tinned cans will not be available for shipping package bees since it is not absolutely essential that cans be tinned for this purpose. Nontinned, lacquered, or painted cans should serve the purpose for the few days that packages are in transit. A can of such type would necessitate a slight change in the construction of cages, as a nontinned can would be difficult to solder. Shippers would do well to do some experimenting this season.

[The above means that the restriction as to date will apply only to tin syrup cans for package bees. See page 161 of the last issue. After April 30 the package bee shipping season will be practically over. Later only cans not tinned can be used.

Later in the same letter he writes:

It is not necessary for beekeepers to suggest prices to O. P. A. Prices are not being set according to the wishes of any party or group. Prices will be based on a defendable formula. For this reason, beekeepers need not be perturbed that any one group is going to dictate what the prices are to be. The question of limiting the sale of honey to firms which customarily use it is also under consideration. Both these matters, as you can recognize, have to do with the encouragement and development of beekeeping along orderly lines.

(Continued on page 248)

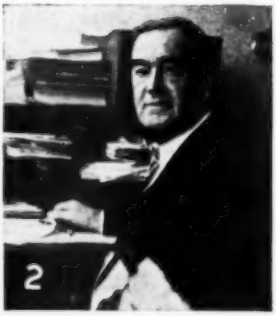


Fig. 1. Mr. Sams was a man of action. He was in the field most of the time showing just how to get the most out of the bees. Fig. 2. At his desk he carried on an extensive correspondence with people he could not reach in person.

In Memoriam of C. L. Sams

C. L. Sams, for over 30 years Extension Apiarist of North Carolina, passed away after a long painful illness at his home in Raleigh, March 7. He was genial, likable, efficient, a diplomat and a Christian. He was the man who put modern beekeeping on the map of his state. When he started in his work in 1917 under Dr. Z. P. Metcalf, Professor of Zoology and Entomology of the University of North Carolina, box-hive beekeeping was almost universal. Now bees in old log gums are almost a thing of the past. During his career he acted both as a bee instructor in extension work and as bee inspector although there was no fund to take care of colonies affected with A F B. In the last two or three years his health gave way. Fortunately two able persons follow him in the persons of Prof. F. B. Meacham, Zoologist and Entomologist at Raleigh, and P. G. Craddock, State Bee Inspector, also of Raleigh. Both are doing fine work. Mr. Sams' work was so excellent that he became almost a national figure in beedom. On how to transfer from box hives to modern and how to find black queens in populous colonies of black bees he was an authority. His methods are described in all the bee journals. In Gleanings we find him written up first in February, 1921, in November, 1932, and again in March, 1937. In the A B C and X Y Z of Bee Culture his methods are described in several of the late editions under the head of "Transferring".

He will be missed not only by a large circle of friends but particularly by persons he has taught to keep bees better.

FURTHER INFORMATION ABOUT DR. BECK

We wrote our manager in New York to get further information in regard to Dr. Beck. We learn that George O. Castell, 140 Riverside Drive, New York, a nephew, is executor of Dr. Beck's estate. Dr. Beck had a large library on bees; some of which are very old. Mr. Castell is arranging to have the books sold to some institution where they will be available to the general public.

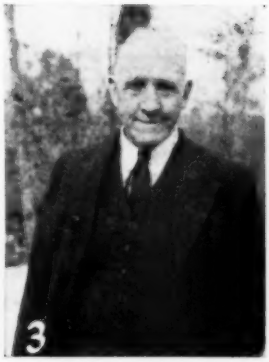
He also writes:

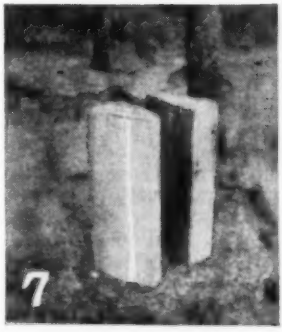
"Dr. Beck spent his last days in Dr. Mathers' Sanitarium in Kingston, N. Y., under the care of Dr. Mathers.

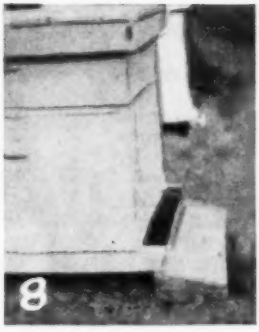
"I understand that Dorothy Leinbach, Barbizon Hotel, New York City, was interested in Dr. Beck's welfare during his last days and in a telephone conversation with her, I suggested that she write you if she had any special information that she thought might be of value to you in writing up the obituary."

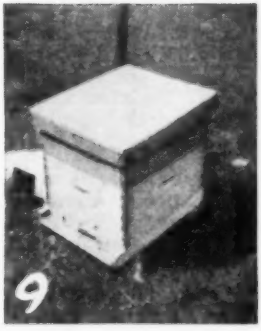
In a letter from Miss Leinbach, January 21, she has this to say:

"Dr. Beck's many friends and patients sincerely mourn his death. The most unfortunate part is that he had discovered so many things about the bee venom therapy which he was never able to impart to another physician. Many are acquainted with some phase of the treatment, but very few are aware of its possibilities. We all hope that there may be one who will give to the study of the therapy the attention and intelligent appreciation that it deserves."









SOME OF THE LEADERS IN NORTH CAROLINA

Fig. 1, Prof. F. B. Meacham, instructor in bee culture at the North Carolina State College, Raleigh, N. C., a likable, lovable man who knows his job. Fig. 2, P. G. Craddock, State Bee Inspector, Raleigh, North Carolina. Fig. 3, F. R. Jordan, Wilmington, N. C., one of the leading beekeepers of his state. He has modern up-to-date equipment. Figs. 5, 6, 8, 9, and 10 show his outfit. They show also his wedge-shaped concrete blocks (Fig. 7) which he uses for hive stands—one in front and one in back. Figs. 5 and 8 show how they also provide a slanting alighting-board. In Fig. 9 they are shown in a vertical position. Fig. 4 presents the Rev. T. G. Vickers, an enthusiastic beekeeper also of Wilmington, N. C. Fig. 6 shows Mr. Craddock and Mr. Jordan looking at the combs. These pictures were taken a year ago.

Just News

Chas. Pease, of Canaan, Conn., a former contributor to Gleanings, passed on recently.

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The Cook-DuPage Counties Beekeepers' Association of Illinois met February 4 and elected the following officers: Carl Olson, LaGrange, President; Harry Oesting, Evergreen Park, Vice President, and A. J. Smith, 2240 Asbury Street, Secretary-Treasurer.

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The sudden death on January 24 of Mrs. Harry W. Jones, the wife of the General Manager of the firm of F. W. Jones & Son, Bedford, Quebec, was followed on February 10 by that of Mr. Jones' mother, the wife of Mr. Frank W. Jones, the founder of the above firm.

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Mr. Gene Cutts, formerly associated with the firm of J. M. Cutts and Sons, has been appointed Deputy Apiary Inspector for the State of Alabama. Mr. Cutts is well qualified to do the work required of a southern inspector. He has had many years' experience in the queen and package business, having worked with his father and later taking active charge of the business. Mr. Cutts also worked in California for one of the outstanding package shippers of that state. He also spent one season in Michigan engaged in the production of honey, and later served as Deputy Apiary Inspector in New Jersey.

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The annual meeting of the Middlesex County Beekeepers' Association will be held at 19 Everett Street, Concord, Massachusetts, on Saturday, April 25th, at 7 p. m. This is the meeting for election of officers and payment of dues for the ensuing year. All those who cannot attend please mail $2.00 for the family membership to Chester A. Robinson, Secretary-Treasurer, 105 Horace Road, Belmont, Mass. Mrs. Chester D. Norton of East Holliston will be in charge of the supper featuring honey baked beans and brown bread, green salads, honey filled pies, and coffee. Mrs. Allard M. Valentine of Arlington will show natural color movies of bees handled by our newest member, Mr. Carl Johnson, and of beautiful flowers of Holland, Michigan. Dr. Burton N. Gates, Massachusetts Chief Apiary Inspector, will be present.

At a meeting of Western New York Honey Producers' Association held on February 28 in Batavia officers elected for this year were Rev. F. A. Hawley, President, Geo. W. Stone, Vice-President, and George E. Norris, of Batavia, Secretary-Treasurer. Dr. E. F. Phillips, Geo. Rea, and State Bee Inspector A. C. Gould appeared on the program.

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The 1942 Revised Bulletin on Package Bees is now available. This 16-page bulletin with illustrations discusses approved methods of installing package bees as well as other management phases dealing with building strong package bee colonies for the major flow. The use of package bees to replace winter-killed colonies and the use of queenless packages to strengthen weak colonies is covered adequately.—W. E. Dunham, Extension Specialist in Beekeeping for Ohio, Columbus, Ohio.

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The Erie County (Penna.) **Beekeepers' Association** gave a dinner in honor of Mr. H. H. Root who showed his movie "The Useful Bees" and gave a talk on "Honey Production in War Time." The dinner was attended by 40 beekeepers, and held in Erie. — Brother Pancratius C. SS. R., President.

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The annual spring series of radio chats for beekeepers will be given over WOI, 640 kilocycles, beginning Monday, April 6th, at 6:45 a. m. It is expected that the listeners of former programs will be on hand at this time and new ones are invited.

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Circular No. 386—"The Wax Moth and Its Control", revised in January, 1942, was originally issued in 1936. The fore part of it is much the same as the original but the latter part refers to means of control in which Paradichlorobenezene is recommended. This drug is obtained almost anywhere and is very effective except that it will not kill wax moth eggs. Methyl bromide will do this work but is not available except by writing to Dow Chemical Co., Midland, Mich. This revised circular is available at 5c a copy from the Superintendent of Documents, Washington, D. C.

Should honey from open market be fed to bees to avoid buying sugar?

A number of beekeepers have inquired about this. We wrote to Jas. I. Hambleton recently for his advice and the following is his reply, which, by the way, sounds sensible:

"In response to your letter of March 4 as to whether beekeepers should feed honey in order to avoid buying sugar, my reaction would be to advise against it. A beekeeper who feeds his own honey should know whether or not he is taking any risk, but he is, without question, taking a risk in feeding honey bought on the open market. While I would say that the bees showing a high degree of resistance to American foulbrood would be little affected by the common run of open market honeys, with highly susceptible strains the case would be different. In the interest of the general welfare, it would seem better, therefore, under present conditions for a beekeeper to buy sugar and thus avoid jeopardizing his own and his neighbors' bees, which will be needed for pollination, and for the production of honey and beeswax. With an increase in honey production the work of the apiary inspectors will be increased, and if their facilities are not stepped up in accordance it will behoove beekeepers to be more careful than ever in keeping American foulbrood under control."

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NOSEMA DISEASE CONTRIBUTES TO QUEEN SUPERSEDURE

It will be appreciated if beekeepers who find queens, which have either stopped laying or are thrown out in front of the hive entrance during April, May, or June, will send them for Nosema examination to the North Central States Bee Laboratory, 6 King Hall, Madison, Wisconsin.

Observations made at the Madison laboratory during 1941 indicate that infection of package queens with Nosema spores may be an important factor in abnormal supersedure. Brood-rearing is not normal when a large percentage of the worker population is infected with Nosema regardless of the colony strength or the abundance of pollen and honey. Queen infection appears to be a matter of chance but infected queens usually reduce or stop laying for a few days before supersedure cells are started.

The full importance of Nosema disease in supersedure may be difficult to determine because the superseded queen often is not found for examination. Beekeepers can aid this study by supplying any superseded queen they find. They should be accompanied by full information concerning date of introduction, date of supersedure, condition of brood nest, amount of pollen, honey reserves, and the weather as it has influenced field activity. Information as to the source of stock will be of value in tracing centers of Nosema infection.—From Division of Bee Culture, Beltsville Research Center, Beltsville, Md.

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U. S. A. HONEY PRODUCTION

Production of honey in the United States in 1941 totaled 206,591,000 pounds, the U. S. Department of Agriculture reported today (March 9, 1942). This compares with an output of 204,363,000 pounds in 1940, and 181,332,000 pounds in 1939.

The number of colonies was 4,555,000 in 1941, compared with 4,410,000 in 1940, and 4,487,000 in 1939. The number of colonies, it will be noted, has remained fairly stable, though adverse weather conditions during the winter of 1939-40 resulted in a heavy loss of bees in the East North Central States. Replacements were rapidly made, however, through the purchase of package bees, and losses were further offset by increases in other sections of the country. In 1940 the total number of colonies was only about 2 percent smaller than the 1939 total.

Yields per colony were relatively high during the past two seasons. For the country as a whole, the average was 45.4 pounds in 1941 and 46.3 pounds in 1940, compared with only 40.4 in 1939. Yields in the North Central and Western States are far above the United States average, largely because of the extensive plantings of sweet clover and alfalfa from which the bees are able to obtain nectar. Yields in the Southern States are low because of the large number of colonies used in the production of package bees and queens.

California is the leading honey-producing State by a wide margin, its output alone exceeding that of the eight South Central States. Then follow in order Iowa, Minnesota, Ohio, Michigan, New York, Wisconsin, Indiana, and Illinois. These nine States produce over half of the nation's honey crop.—United States Department of Agriculture. Bureau of Agricultural Economics, Washington, D.C.

Asked and Answered

Feeding Cakes of Pollen and Soybean Flour

Question.—How can I feed bees cakes made from pollen and soybean flour in early spring?—R. L. Farmer, North Carolina.

Answer.—The formula for making 50 one-pound cakes of this mixture is as follows:

> "4 pounds of dry pollen is softened with 2½ cups of water. The moist pollen is added to 30 pounds of mixed sugar syrup made by dissolving 20 pounds of sugar in 10 pounds of hot water; 12 pounds of soybean flour is added to the syrup and pollen mixture and stir it until uniformly mixed to produce a dough like paste. The pollen does not soften readily in sugar syrup, but breaks up when a little water is added. Where the pollen supply is abundant and the percentage can be increased from 25 to 50%, less syrup will be needed if soybean flour is used alone, more syrup will be required."

The pollen should be trapped from the bees during the active season. We suggest that you send to Division of Bee Culture, Bureau of Entomology and Plant Quarantine, Beltsville, Md., for bulletin E-531, entitled, "The Use of Pollen Traps and Pollen Supplements in Developing Honeybee Colonies." This bulletin is free.

Correct Method of Hiving a Swarm

Question.—A man here tells me that when a colony swarms, if the old hive is removed, and a new hive is placed where the old hive was, the swarm will come back to it. I suppose this means when the swarm settles somewhere near. Is there anything to this?—H. A. Knevels, Michigan.

Answer.—It is possible, that in some instances, a swarm of bees, after issuing from a hive, and clustering on a bush or some such object near by, may return to a new hive placed on the old stand, after the old hive has been removed to a new location. In most instances, however, the swarm, after clustering for a time near by, will leave for a new home, which, authorities tell us, is discovered, or sought out by scout bees. The procedure you mentioned, namely, moving the old hive aside, to a new stand, then placing the new hive on the old stand is the proper procedure to use when hiving a swarm that has clustered on a bush. When this is done, the bees that are in the fields, when the swarm issues, return to the hive on the old stand, and thus the swarm is strengthened. Furthermore, many of the old field bees that are in the parent hive, when it was set aside, return to the hive on the old stand, leaving only the young bees that have never flown. This old or parent hive set on a new stand will eventually have a young laying queen, provided nothing happens to the young queen during the process of mating. This method of handling a swarm prevents after-swarming and results in larger crops of honey.

Dead Bees at Hive Entrance

Question.—We have had a week of subzero weather in which one of my hives, a double brood chamber, which I thought to be the strongest, lost an unusual number of bees. What can I do, if anything, to save it?—Charles Orr, Kentucky.

Answer.—Provided your bees are well supplied with stores of good quality and adequately protected against the elements, it is not likely that you need to worry concerning the few dead bees found at the hive entrances. These bees are likely the old bees that were born early last fall and perhaps wore themselves out during the fall months gathering nectar and pollen. If your colony is well supplied with stores there is nothing you can do, at the present time, to improve conditions.

Producing Section Comb Honey Over Two-Story Brood Chambers

Question.—Is it better as far as the production of section comb honey is concerned to remove the top super or brood chamber of a two-story hive? I find it difficult to crowd the bees into the one brood chamber in order to remove the top super without having them hang outside. In some cases, even though late in the season, there are some tendencies to swarm, especially if a few days of rain should follow. I want only the whitest comb both as to honey and cappings and do not wish any amber honey brought from below and stored in sections.—L. Franks, Illinois.

Answer.—We have produced choice comb honey in sections over double brood chambers. To do this the flow must be unusually heavy and of considerable duration. Furthermore, there must be no trace of dark honey in the combs of the double brood chamber hive. The apiary in which we tried producing section honey over double brood chamber colonies was in an area where no fall flow occurred, there being only clover honey in double brood chamber colo-

nies. We think the double brood chamber tends to reduce swarming, because the queen has more comb space for brood-rearing. Furthermore, there is less likely to be comb honey sections containing pollen, because there is ample comb space in these double brood chamber hives for the storage of pollen and consequently the bees are not so likely to carry it above into the supers. Unless your colonies are boiling over with bees and there is likely to be a good honey flow, we would not advise you to try producing section comb honey over double brood chamber colonies.

Queen Excluder Above Double Brood Chamber

Question.—What has been found amongst beemen in using a queen excluder between the first and second super or between the second and third super, or if it is best not to use any at all? I am tempted this coming season to use them on some of my hives, and let the queen have full access in the first and second super of the ten-frame hive.—Ira J. Nichols, Saskatchewan.

Answer.—It would seem that you could use the double brood chamber, that is, you could place the queen excluder above the double brood chamber and let the queen have access to this double brood chamber throughout the season. In your section of the country, the cool nights, that are likely to occur during the latter part of the season would cause the bees to put honey in the upper brood chamber and this would force the queen down into the lower brood chamber. This would help to insure having the upper brood chamber well filled for winter. The use of the double brood chamber should help to control swarming. It is necessary, of course, to provide plenty of comb space or supers at the beginning of the honey flow in order to encourage bees to start storing surplus in supers above the double brood chambers. This is very important: Supers containing drawn combs are preferable to full sheets of foundation. If comb foundation is used it may be necessary, at the beginning of the flow, to raise a few combs of brood into the supers to get the bees to start work above the excluder and to relieve congestion below.

Management of Swarms When No Increase Is Desired

Question—Not wishing to increase the number of my colonies, could I return the swarms to the hives from which they came, or unite them with weaker colonies? I could then kill the old queen, and by that method requeen my colonies.—Thompson W. McKinney, Pennsylvania.

Answer.—While keeping bees commercially in upper Michigan during 1917 and 1918, an old beekeeper, with years of experience, gave me a little trick of the trade that worked well for handling swarms when no increase of colonies is desired. Have all queens' wings clipped. When a swarm issues, place the queen in a wire screen cage, similar in shape to the Root or Miller queen introducing cage. The caged queen should be placed temporarily in the entrance of the hive from which the swarm issues. The swarm will of course return to the hive. The brood chamber of this hive should be examined carefully and all queen cells but one should be destroyed. The caged queen is then placed in the top super, between two combs. The bees will feed this queen through the meshes of the wire screen. In due time a young laying queen should appear in the brood chamber. If the old queen above is needed for another colony, she may be used. If not, she may be destroyed. We have had bees feed these old queens in upper supers for over a month. By this method, the working force of the colony is kept together.—M. J. Deyell, Manager, Root Co. Apiaries.

Should Combs Be Parallel or at Right Angles to Hive Entrances?

Question.—If, as some observers say, bees in their wild state construct combs parallel to the wall where the entrance occurs, why are American hives made in such a way that combs run at right angle to the entrance?—D. Beregekoff, New York.

Answer.—It would seem more sensible to have combs run parallel to the wall in which the hive entrance is located, especially if combs are built in this manner where bees are found in a wild state. However, there seems to be some differences of opinion as to whether combs are always built this way. The main reason for having the frames running parallel with the side of the hive, instead of the end, is that the hive when properly located, should have the front a little lower than the back, in order to drain off moisture. You can readily see that a hive containing frames running parallel to the entrance, would then have combs that would not be in a perpendicular position. From the standpoint of opening the hive, it would be much better, in the opinion of the writer, for the operator to be at the back of the hive, rather than at the side while manipulating the combs. This procedure would put the operator as far as possible from the hive entrance.

Talks to Beekeepers

M. J. Deyell

Bees Sure Workin' Hard

Saturday, March 7, a beautiful, sunshiny, warm day, with the mercury close to 60 degrees, I visited the home apiary of The Root Company. As I sat in my car watching the bees take a much needed cleansing flight, a man with occasion to walk near the hives, stopped a moment and said, "The bees are sure workin' hard today". This person knowing little about the inmates of the hive apparently thought that the bees were bringing in honey. Just where he thought the bees were getting the honey, I do not know.

Well, the bees were working! They were cleaning house. All of the old dead bees that had fallen to the bottom boards during the recent cold spell, were carried out of the hives and deposited on the alighting boards. Later on, when the weather gets warmer, most of these old bees will be carried away from the entrances of the hives by worker bees and dropped some distance from the hive. Have you ever watched a worker bee pick up a dead bee and fly off with it? This is an interesting sight. If you have ever tried to carry a dead person, of your own weight, you will have a better understanding of the task that confronts a worker bee.

Normal colonies deposit quite a number of dead bees at hive entrances during the winter months. Beginners write in, with much concern, about these dead bees. This is a good, rather than a bad, omen. I would be worried if I did not see some dead bees in front of hives during the winter and early spring months. These bees were likely born late last summer and have served their day and generation.

That same day, March 7th, I visited one of my own apiaries out in the country. A few hives were opened to determine their strength. All of the colonies were boiling over with bees. Bees in this area have had at least two good winter flights and this accounts in part for their splendid condition at present.

Bees Visit Livestock Barns

A few years ago a farmer living near one of our commercial apiaries used to call up each spring to inform us that our bees were taking possession of his barn. We knew, of course, that at that particular time bees were searching for pollen and that they visited the mangers and granaries of the barn in order to secure a substitute for pollen from ground-up grains fed to the stock. To meet this emergency and to relieve the anxiety of the farmer we secured some corn or pea meal, carried it to the apiary, spread it on the ground near the hives, and put some sugar syrup on it to attract the bees. This procedure usually diverted most of the bees away from the stock barn. In a few days the pussy willows would give an abundance of pollen and the bees would leave the meal and visit the willows, which, by the way, are the first source of pollen in this area. Elms and maples follow along, then dandelion comes about the last of April.

More About Installing Packages

In the March talk I made reference to this but I wish to add another word. The most critical time in the development of a package of bees into a normal colony is during the third week following the date of installation. At this time some of the bees that came with the package begin to die off and consequently there are fewer bees in the hive than there were to begin with. At the beginning of the fourth week, when young bees begin to emerge from the first cycle of brood, the young colony is rejuvenated to some extent, although a percentage of the old bees continue to die off.

A Trick Worth Using

Here is a little trick that will sometimes mean the difference between success and failure in securing a crop of honey. At the beginning of

the third week, go to a strong, overwintered colony (if you have one) and select a comb of sealed brood, with not too large an area of brood, that contains young bees beginning to emerge, and after shaking all of the bees off this comb into the hive from which it is taken it should be placed in the center of the cluster of bees that needs to be strengthened. The empty space in the hive from which the comb was taken may be filled up by using the extra comb from the hive containing the package.

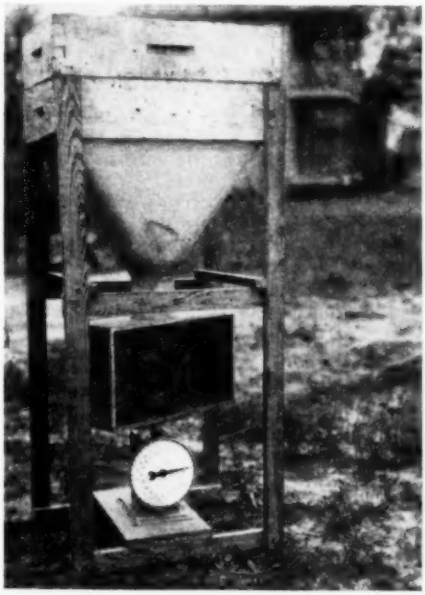
It is obvious that the young emerging bees from the comb given to the package colony will not only increase the strength of this developing colony but will also furnish extra comb space for the young queen in the package to use in producing brood. Beginners who try this should be cautioned not to select too large a frame of brood else some of the brood on the edges of the comb may be lost.

It should be remembered also that five weeks are required for the queen with the package to produce bees that are ready for field work. Three weeks are required from the time an egg is laid until a young bee can emerge and two more weeks, or possibly a few days longer, are required for this young bee to become a fielder. A careful consideration of these facts should help us get clearly in mind the importance of installing packages as early as possible. However, there is no advantage in putting packages into hives before pollen is available.

Strengthening Weak Colonies

A weak colony in the spring is practically valueless unless it is strengthened in order that it may build up in time for the main honey flow. A two-pound queenless package added to a weak colony will give it a tremendous boost. The queen may be perfectly all right, capable of doing good work but cannot lay to her maximum capacity until the weak colony has been strengthened. These added bees will help to take care of the brood that the queen is capable of producing.

There are various methods of adding a queenless package to a weak



A device for shaking and weighing bees into bee-shipping cages.

A common method of filling packages with bees—using a funnel.

colony. One of the best methods consists of feeding the queenless bees all the sugar syrup they will take, then uniting them with the weak colony by removing a few frames temporarily and dumping the bees in the side of the hive. The bees, being queenless, are not likely to harm the queen and the bees in the weak colony are not likely to object to the newcomers, especially when they are filled with syrup.

How to Examine Colonies

Hives should be opened only during the warmest part of the day while bees are working well. One needs a bee smoker, a bee veil, and a hive tool. The smoker should be well lighted and this should be done before putting on the veil, especially if it is a cotton veil which is easily burned by the flames from the top of the lighted smoker.

Never stand in front of the hive when the bees are flying. If the hive has an outer cover, remove it, then insert the hive tool under one corner of the inner cover and blow some smoke through this small opening. Wait a few seconds, then remove the inner cover and apply some more smoke over the tops of the frames, but not too much.

To remove the first frame, shove the hive tool down between the end bars of the nearest frame and the hive wall and pry the frame over to the opposite side. Next, separate the nearest frame from the adjacent one and remove the nearest one carefully. Do not make any quick moves. After examining the comb, stand it on end at the front corner of the hive so as not to obstruct the hive entrance. This is important because if the queen should be on this comb she could easily crawl into the entrance of the hive instead of being lost in the grass.

The next comb should be removed and examined, then placed back in the hive at the nearest side. The remaining combs should be removed in like manner. Before placing the last frame removed back into the hive, the frames in the hive should be pushed over, all at once, to the further side to make room for the first frame removed. This prevents killing bees. Any extra space not occupied at the near side of the hive should be divided evenly at each side before the hive is closed.

Conditions Inside the Hive

In the latitude of northern Ohio a normal colony during late April should have brood in five or six combs. Further south, colonies have reached full strength and in many states a considerable surplus has been harvested.

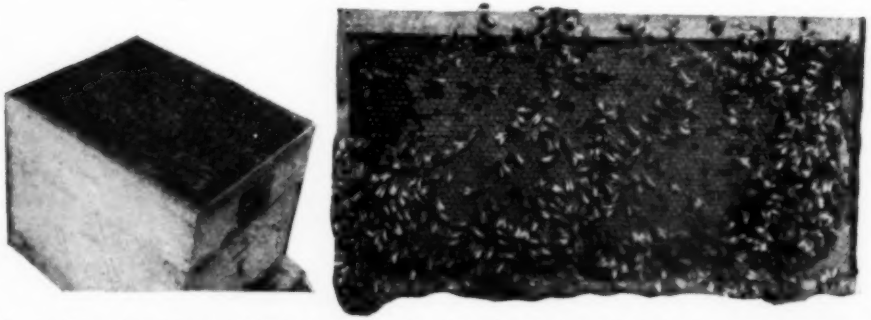
The combs on the sides or near the walls of the hive should contain considerable sealed honey. Combs in the center of the brood chamber should have brood in all stages, unsealed and sealed, as well as honey in the upper portions of the combs.

A strong colony in April, in the latitude of Medina, should look like the one in the accompanying picture, and the comb of brood, with adhering bees shown, is representative of a comb taken from the center of a brood chamber of a populous colony.

Cells adjacent to the brood will contain pollen of various colors. Balls of pollen may be seen on the legs of worker bees. This pollen is placed in the cells of the combs to be used later as larval food. Fresh nectar may be seen glistening in the cells of the combs.

There are three kinds of cells—worker, drone, and queen cells. The worker cells are about 1/5 of an inch

(Continued on qage 244)



A populous two-story colony, also a comb taken from the center of the brood chamber in April. Note the cells of pollen in the upper left corner.

Buy and Sell Here

CLASSIFIED ADS

Only responsible advertisers and honest advertisements will be admitted to these columns. References required from new advertisers not known to us. Rate: 8 cents per counted word each insertion. Each initial, each word in names and addresses, the shortest word such as "a" and the longest word possible for the advertiser to use, as well as any number (regardless of how many figures in it), count as one word. Copy should be in the 10th of month preceding.

HONEY FOR SALE

WATER WHITE clover extracted. Howard Grimble, Holcomb, N. Y.

FOR SALE—Extracted and comb honey. M. W. Cousineau, Moorhead, Minn.

CHOICE MICHIGAN clover honey in new 60's. David Running, Filion, Mich.

FOR SALE—Chunk honey in frames, also extracted. C. E. Baier, Cissna Park, Ill.

WILL HAVE more Tupelo honey May 20th. Marks Tupelo Honey Co., Apalachicola, Fla.

NEW YORK STATE CLOVER, mixed and buckwheat comb honey. C. B. Howard, Geneva, N. Y.

HONEY FOR SALE—All kinds, any quantity. H & S Honey & Wax Co., Inc., 265-267 Greenwich St., New York, N. Y.

COMPLETE line comb and bottled honey, pure clover. Also packed in 5's and 60's. Central Ohio Apiaries, Inc., Millersport, Ohio.

FOR SALE—By case or car load, fancy white clover honey, also extra light amber. All in new cans and cartons. Oscar H. Schmidt & Sons, Rt. 4, Bay City, Mich.

HONEY PACKERS—Write us for prices on carload lots of California and western honeys. We stock all varieties. Hamilton & Co., 1360 Produce St., Los Angeles, California.

STRICTLY FANCY White comb, $4; No. 1, $3.50 per case of 24 sections; 24-case orders, 25c per case less; taken from our door, another 25c discount. H. G. Quirin, Bellevue, Ohio.

NEW YORK State comb and extracted honey, buckwheat and clover, any quantity, all size packages. Five-pound pails my specialty. Edward T. Cary, Midland Ave. and Tallman St., Syracuse, N. Y.

SOLD OUT of Michigan clover honey, thanks! New 1942 crop should be ready for the market in July. Then, we will be pleased to hear from all our customers. E. D. TOWNSEND & SONS, Northstar, Michigan.

FOR SALE

FOR SALE—Complete bee outfit. Chas. McGarity, St. Xavier, Mont.

QUEENBEE PAINTING outfits $1.00 postpaid. Southwick Apiaries, Waban, Massachusetts.

FOR SALE—500 comb honey supers, complete, like new, 30c each. N. B. Querin Bellevue, O.

FOR SALE—We accumulate bee supplies at our warehouses, slightly shopworn and fully serviceable, but discontinued for lack of sale. Write for complete bargain list. G. B. Lewis Company, Watertown, Wisconsin.

BEST QUALITY queen mailing cages, freight paid. Free sample. Bee shipping cages. Vernon Homer, Rt. 5, Menomonie, Wis.

WAX worked into high quality medium brood foundation, 15c pound; 100 pounds, $12.00; thin super, 22c. Fred Peterson, Alden, Iowa.

FOR SALE — 90 ten-frame hives, 95% Three-ply combs. Nice equipment. No disease now or ever. Chas. C. Allen, R. 4, Staunton, Va.

FOR SALE—700 pounds Dadant wired foundation with hooks. New this year. 70c per lb. Must sell account of draft. Roland Harnick, Shepherd, Mich.

COMB FOUNDATION at money-saving prices. Plain, wired and thin sections. Wax worked at lowest rates. Comb and cappings rendered. Robinson's Wax Works, Mayville, N. Y.

THE ONLY complete line of wax rendering equipment ever offered—the "Perfection" Line. A size and type suitable for every commercial beekeeper. Write for descriptive circular. Robinson's Wax Works, Mayville, N. Y.

SAVE MONEY by letting us work your wax into wired or regular comb foundation. Large catalog describes everything. You pay only wholesale factory prices, as we have no agents. Walter Kelley Co., Paducah, Kentucky.

3-fr. ROOT Extractor; 8-fr. hives, tops and bottoms, also some 8-fr. bodies, 10-fr. hives, tops and bottoms, also some 10-fr. bodies. Some 10-fr. bodies of drawn combs. All hives and bodies painted, good condition. No frames. Reasonable. Albert Hann, Glen Gardner, N. J.

HONEY AND WAX WANTED

BEEKEEPERS TAKE NOTE—We will not guarantee any honey buyer's financial responsibility and advise all beekeepers to sell for cash only, or on C. O. D. terms except where the buyer has thoroughly established his credit with the seller.

CASH PAID FOR carloads and less than carloads of extracted honey. Send sample and best price. C. W. Aeppler Company, Oconomowoc, Wis.

WANTED—Honey and beeswax. Mail samples, state quantity and price. Bryant & Cookinham, Los Angeles, Calif.

WANTED—Comb, chunk comb, white and light amber extracted honey. Any amount. Central Ohio Apiaries, Millersport, Ohio.

CASH PAID for extracted clover honey. Send sample and best price. Clover Bloom Honey Co., Gen. Delivery, Shrewsbury, Mass.

HIGHEST cash returns made the day we receive your beeswax. Write for shipping tags and quotations. Walter T. Kelley Co., Paducah, Ky.

WANTED—White and amber extracted honey. Fancy comb, also No. 1 comb honey. Comb honey in shallow extracting frames. Beeswax. We render old comb into wax. Prompt remittance. Write us.
THE FRED W. MUTH CO. • CINCINNATI, O.

WANTED--Extracted Honey All Varieties
Send samples and delivered prices to
JEWETT & SHERMAN COMPANY
Cleveland, Kansas City and Brooklyn

St. Romain's "Honey Girl" Italians
COMBLESS PACKAGES
2 lbs. bees with queens . . $2.25
3 lbs. bees with queens . . 2.85
4 lbs. bees with queens . . 3.45
Entirely booked for April. Order in advance to reserve shipping date for May. Quality, service, safe delivery guaranteed. State Dept. of Agri. certificate, certifying freedom from disease, with each shipment.
A. D. St. Romain Apiaries
Moreauville, La.

Get PLANT'S *Bees*
Higher Production **More Profit**

More gratifying results at harvest time is our aim in producing and preparing your package bees.

Reports from our customers as well as results in our own honey yards prove that they really are superior honey-getters; also are more hardy, gentle and prolific.

We guarantee full weight, safe arrival, satisfaction, and no disease. State health certificate sent with each shipment.

Package prices include queen

	queens	2 lbs.	3 lbs.
1 to 24	$0.75	$2.50	$3.20
25 to 99	.70	2.35	3.00
100 to 499 . . .	.65	2.20	2.80

For queenless packages deduct price of queen.

If larger packages are wanted, write for prices. Orders shipped on date you specify.

Over 30 years experience

W. E. PLANT
Route 2
Hattiesburg **Mississippi**

WANTED—White clover and light amber honey. Any amount. Cash at time of delivery. Clover Blossom Honey Co., 712 Kossuth St., Columbus, O.

WANTED—Extracted honey in ton lots or more. Send sample and quote price delivered here. C. J. Morrison, 1235 Lincoln Way West, South Bend, Ind.

WANTED—All grades of comb and extracted honey. Bee supplies and honey containers for sale. Prairie View Honey Co., 12243 12th St., Detroit, Mich.

WANTED—We pay cash top price for clover honey in 60-lb. tins. Any quantity. Send sample and best price. Cloverdale Apiaries, F. M. Babcock, Fredonia, N. Y.

CASH PAID for extracted white clover or light amber and comb honey. Send sample and best price to: Honeymoon Products Co., 39 E. Henry St., River Rouge, Michigan.

BEES AND QUEENS FOR SALE

ITALIAN QUEENS in season. White Pine Bee Farms, Rockton, Pa.

BRIGHT ITALIAN QUEENS—Untested, 60 cents each. Ready April 1st. D. W. HOWELL, Shellman, Georgia.

HIGH GRADE bees in standard hives, guaranteed no disease. Very reasonable. George Schilling, State Center, Ia.

FOR SALE—30 colonies bees in ten-frame two-story hives. Guaranteed disease free. W. J. Brooks, Sherburne, N. Y.

IMPROVED Italian queens, 75c, from a strain that produced over 600 pounds honey per colony. Henry Loehr, Caldwell, Texas.

OVER WEIGHT packages and young queens at a price you can afford to pay. Can fill early orders. Write D. P. Green, Deland, Fla.

PACKAGES and nuclei of Italian bees. Good bees and service, low price. See my March ad for details. Millard Coggshall, Clermont, Fla.

THREE-BANDED Italian bees and queens for spring delivery. Write for prices. Alamance Bee Company, Geo. E. Curtis, Mgr., Graham, N. C.

FOR SALE — Twenty-nine colonies of bees. Guaranteed disease free. Ten-frame equipment. Raymond Bidlack, Paulding County, Oakwood, Ohio.

CAUCASIAN BREEDERS ONLY. Laying queens, 75c; tested, $2.00; 2-lb. pkg. and queen, $2.30; 3 lbs., $3.00. MILLER BROS., Rt. 1, Three Rivers, Tex.

THE NORMA ROY Apiary—We are about booked up for April delivery. Thanks to our customers and friends. Norma E. Roy & Son, Hessmer, Louisiana.

FOR SALE—200 colonies of bees, with equipment to operate for comb or extracted honey. Bees guaranteed free from disease. John Joseph, 162 Ashford, Bellevue, Ohio.

CAUCASIAN BEES AND QUEENS. 2-lb. pkg., $2.25; 3-lb. pkg., $2.75. Untested queens, 75c each. Write for prices on quantity lots. Lewis & Tillery Bee Co., Greenville, Ala.

CAUCASIAN PACKAGE BEES, high quality, long-tongue, gentle, prolific, dependable workers. 2-pound package bees, with queen, $2.50; 3-pound package, with queen, $3.20. Write for prices for large orders. Safe arrival and satisfaction guaranteed. Skinner Bee Co., Greenville, Ala.

FOR SALE—18 colonies of bees in two stories 8 to 10-frame hives furnished. Selling on account of death. Certificate of inspection will be furnished. Asa Gawn, R. D. 2, Lorain, Ohio.

PUBLIC SALE of bees and beekeepers' supplies, new and used, plenty stores, no disease. Particulars on request. April 16 at one o'clock. W. G. Lauver, Middletown, Penna.

FOR SALE—A complete apiary, located in the white clover section of New York State, that averaged over 200 pounds per colony the past season. For particulars, address Bargain, care Gleanings.

FOR SALE—200 colonies of bees in standard 10-frame hives. Reasonable prices on package bees and queens, also 3 and 4-frame nuclei. Write for prices and other information. Walker Apiaries, Lexington, Texas.

FOR SALE—450 colonies bees in 10-frame hives, located in Sumter Co., Alabama. Equipped for queen and package business. With or without real estate. Bees guaranteed free from disease. David Running, Filion, Mich.

FOR SALE—12 colonies of bees in 1-story 10-frame hives; 1 colony in Modified Dadant hive, located in southeastern West Virginia in good clover section. Bees disease free. Kenneth Broyles, Lindside, West Virginia.

PACKAGES AND QUEENS—Our Hustler strain, 3-band Italians, gets the honey. 2-lb. package with queen, $2.50; 3-lb. package, $3.20. You will be pleased with the Weight, Quality, and Service that we give you. Caney Valley Apiaries, Yancey Bros., Owners, Bay City, Texas.

FOR SALE—A whole or part ownership, apiaries and general honey distribution business in fastest developing section Southeast. Selling brands established twenty years through two states. Change necessitated by owner's health. Address "A", c/o Gleanings, Medina, O.

WANTED—MISCELLANEOUS

WANTED—25 good clean colonies. John Killmer, Second Street & Green Lane, Olney, Phila., Pa.

WANTED—Small extractor. Give particulars. Walter Knipstein, Route 10, Fort Wayne, Indiana.

WANTED—Large or medium power extractor, also bees and equipment. Crawford Smith, Clayville, N. Y.

WANTED—Ten to fifty colonies bees. Must be free of disease. State condition of hives, lowest cash price. John Sauer, 222 W. G. North, Springfield, Ills.

WANTED—Best price on 200 3-lb. packages of Italian bees, with loose queens, for April 24th delivery. L. S. Griggs & Son, 711 Avon St., Flint, Michigan.

WANTED—One thousand standard ten-frame supers of comb. Also bees in ten-frame hives. Would consider whole outfit. Walter Roose, Sac City, Iowa.

HELP WANTED

WANTED—Help for season. Write full particulars and wages expected. Edw. Klein, Gurnee, Ill.

WANTED—Helper for Minnesota apiaries. Give full description and wages expected. E. E. Salge, Weslaco, Texas.

MERRILL'S

Quality Bees and Queens

Prices on Packages with Queens

Lots of	Queens	2-lb. pkgs.	3-lb. pkgs.
1-24	$0.75	$2.50	$3.20
25-99	.70	2.35	3.00
100-499	.65	2.20	2.80

If queenless packages are desired, deduct price of queen. If larger packages or larger number is desired, write us.

• • •

Merrill Bee Co.

Bucatunna, Miss.

Mississippi's Oldest Shippers

HELLO, FOLKS! Here We Are Again!

STEVENSON'S LINE-BRED GOLDENS

And 5 of the many good reasons why:

1. We are the best of honey producers.
2. So gentle that it is a pleasure to work with us.
3. Do not swarm until the hive is well filled.
4. Not nervous; are quiet while being handled.
5. Our gentleness makes queen introduction safe; result, very little supersedure.

We Are Really Good!

2-lb. pkgs. with queens—to 49, $2.45; to 199, $2.30; over, $2.20. Additional bees, 70c per pound. Queens, 75c each. Dealers and Associations 10% discount. If interested write

STEVENSON'S APIARIES
Westwego, La.

SPECIAL 1942 PRICES

Italian Package Bees with queens, 2 lbs., $1.85; 3 lbs., $2.30; 4 lbs., $2.75. Queens, 65c. 15% down books order. Health certificate, full weight, safe delivery guarantee. Address

HESSMER BEE FARM, Hessmer, La.

WHEN WRITING TO ADVERTISERS, MENTION GLEANINGS

DIXIELAND'S
LEATHER-COLORED ITALIANS

The best stock of Leather-Colored Italians—queens and package bees. Our strain of bees has been improved through years of testing, and selecting queens from a strain of Dark Leather-Colored Italian queens that was originally imported from Italy. These years of testing and selecting have produced a gentle, hardy, and as good a honey producer as can be found on the market today.

	2-lb. Pkg.	3-lb. Pkg.	4-lb. Pkg.	Queens
1- 24	$2.50	$3.20	$3.85	$0.75
25- 99	2.35	3.00	3.60	.70
100-499	2.20	2.80	3.35	.65
500-up	2.00	2.55	3.05	.60

Book your orders now and reserve your shipping date. Once we fill your orders, you will always be satisfied with our prompt service, full weight, low supersedure, and safe arrival.

You must be satisfied!

DIXIELAND APIARIES
Greenville, Alabama

WE THANK YOU

* * * * *

For the many orders you have favored us with. We have more bees and better help than ever before and will do our best to give you Quality and Service. If you have not sent in your order, please do so at once.

* * * * *

Weaver Apiaries

Navasota, Tex.

WANTED—Experienced beeman in modern commercial apiary. State experience, personal description, wages wanted. Room, board furnished. E. Schlemmer, Edgar, Mont.

WANTED—Several young men who wish to learn the bee business, as helpers in our apiaries at Filion and Bay City, Mich., preferably below draft age. Some to stay from April 20th to Nov. 1st, others from June 15th to Sept. 1st. State age, experience, height, weight, and wages wanted. We furnish board and room. Oscar H. Schmidt & Sons, Rt. 4, Bay City, Mich.

MAGAZINES

THE INDIAN BEE JOURNAL—The only bee journal in India. Sample copy free. Yearly 7c6d. Apply Editor, Indian Bee Journal. Jeolikote, Dist. Nainital, U. P. India.

READ the South African Bee Journal to be conversant with conditions from far afield. Subscription 5/ per year. For further particulars, write to the Hon. Treasurer, P. O. Box 43, Cleveland, Johannesburg, S. Africa.

MANY beekeepers have proven raising fox, mink, nutria, muskrats, rabbits, highly profitable. Send dime for sample copy. Canada's oldest fur farming magazine telling how. Fur Trade Journal of Canada, Box 31, Toronto 2, Ontario.

THE BEE WORLD—The leading journal in Great Britain and the only international bee review in existence. Specializes in the world's news in both science and practice of apiculture. Specimen copy post free, 12 cents stamps. Membership in the Club, including subscription to the paper, 10/6. The Apis Club, L. Illingsworth, The Way's End, Foxton, Royston, Herts, England.

MICHIGAN BEEKEEPER magazine brings you the NEWS from the field of beekeeping. You'll like this monthly publication. Subscription $1 a year. Michigan Beekeeper, Rt. 3, Lansing, Mich.

SEEDS

SIX BASSWOOD seedlings 2-foot, or 10 BASSWOOD seedlings, 12-inch, or 5 PINK HONEYSUCKLE shrubs, or 20 CARAGNA (hedging)—1-foot, or 3 PUSSYWILLOW, 3-foot (early spring pollen)—nectar producers, each group postpaid for $1.00 bill. Checks require 10c exchange. Local Lewis-Dadant Dealer. Nicollet County Nursery, St. Peter, Minnesota.

Thrifty Bees

Combless packages and queens.

Three-banded Italians only.

Fifty years' experience assures you of THRIFTY bees that are guaranteed to please.

Let us quote you our prices.

W. J. Forehand & Sons

Fort Deposit, Ala.

Breeders Since 1892

Pettit's Package Bees with Queens

You Must Be Satisfied — Best Young Queens
Gentle Workers — No Drones

Quantity	Twos Each	Threes Each	Fours Each	Fives Each	Extra Queens Each
1-23	$2.45	$3.15	$3.85	$4.55	$ .75
24-49	2.30	2.95	3.60	4.25	.70
50-99	2.15	2.75	3.35	3.95	.65
100-up	2.00	2.55	3.10	3.65	.60

Our best friends are satisfied customers.
Cash before shipping.

Safe arrival and satisfaction guaranteed.
Never before were we so well prepared to give service.

Morley Pettit, Tifton, Georgia, U. S. A.

GLASSWARE . . .
BEE SUPPLIES
At factory prices. Write for quotations. Will accept honey and wax as payment.

HONEY and WAX WANTED
All grades in carloads or less. Send sample, quote lowest CASH prices. State how much each kind.

ALEXANDER CO., 819 Reynolds Rd., Rt. 3, Toledo, Ohio

GOT A HOBBY?

YOU'LL MEET the other leaders in your field when you read the magazine that is devoted exclusively to your interest. Rush your subscriptions today. Per Year

$ .20 Poultry Keeper
1.00 Southwestern Poultryman, 3 yrs.
1.00 Dirt Farmer-Stockman
2.00 New Agriculture
.25 Poultry Breeders World
.50 Pacific Poultryman
.50 American Turkey Journal
1.00 New Hampshire Breeder, 3 yrs.
1.00 Cackle & Crow, the poultry paper
1.00 American Rabbit Journal
.50 Rabbit Monthly (Comm.)
1.00 American Fur Breeder
1.50 American Pigeon Journal
1.50 Pigeon News
1.00 Angora (Goat) Journal
1.00 Belgian (Horse) Journal
1.00 Hog Breeder (all breeds)
.50 Spot. Poland China Bulletin
1.00 Amer. Hampshire Herdsman
1.00 Sheep Breeder
1.00 The Sheepman
.50 Sou. California Rancher
1.00 American Cattle Producer
1.00 Red Polled (Cattle) News, 2 yrs.
.50 Fletcher's Farming
1.00 American Bee Journal
1.00 Beekeepers Item
1.00 Gleanings in Bee Culture
.50 Florida Poultryman & Stockman
1.00 Florida Cattleman & Dairyman
1.50 American Pecan Journal
.50 National Live Stock Producer
1.00 The Wes'erner (Livestock)
1.50 The Purebred (2 yrs. $2.00)

Rush your order today. All orders are acknowledged by return mail. Send cash, check. P.O.M.O., Exp. M.O. or stamps.

MAGAZINE MART
Dept. GB — La Grange, Ill.

PACKAGE BEES WITH QUEENS
THREE-BANDED ITALIANS

	2-lb. pkgs.	3-lb. pkgs.
1-4	$2.50	$3.20
25-99	2.35	3.00
100-499	2.20	2.80

Queens—75c each

Order as early as possible to be sure of getting bees.

The Crowville Apiaries
J. J. Scott, Prop.
Winnsboro, La. — **Rt. 1**

$2 2-lb. Package Italian Bees and Queen **$2**
Queens, 60c each, Postpaid.
Health Certificates.
E. A. CASWELL
4019 Piety Street — **Route 4**
New Orleans, La.

Three-Banded Italian Bees and Queens for 1942 . . . .

2 lbs. bees and young laying queen $2.20
3 lbs. bees and young laying queen 2.80
Queens 60

10% discount to dealers

J. P. CORONA
Box 124 — **Kenner, La.**

York's Package Bees and Queens

Quality Bred Italians

We wish to thank all of those for their fine response to our recent ads. Our queens are as good as can be produced and packages are full weights, quality bees with good young laying queens. Prices on queens and package bees with queens in U. S. funds.

Quantity	1-24	25-99	100 up
Untested queens	$0.80	$0.75	$0.70
Tested queens ..	1.60	1.50	1.40
2-lb. pkgs.	2.50	2.35	2.20
3-lb. pkgs.	3.20	3.00	2.80

York Bee Company

Jesup, Georgia U. S. A.

(The Universal Apiaries))

TALKS TO BEGINNERS

(Continued from page 238)

in diameter. The drone cells are about 1/4 inch in diameter and are usually found in the lower portion of the combs and are easily detected because they project somewhat beyond the general surface of the worker cells.

Queen cells appear before a swarm issues and are usually built along the lower edges of the combs and are easily recognized, because instead of being horizontal, as are worker and drone cells, they are vertical in position and resemble peanut shells in appearance and size. Supersedure cells are more likely to appear near the middle of the comb.

It is very necessary, especially this season, to keep in mind the objective of beekeeping, namely, the maximum crop of honey. During the spring months, while colonies are building up to full strength all of the colony requirements should be kept in mind. Colonies needing more food should be fed promptly. Authorities tell us that a colony should never have less than fifteen pounds of stores at any one time during the spring months. Strong colonies that need additional comb space because of a spring honey flow should each be given a super.

Order Bees and Queens Early

	Queens	2-lb. pkg. with queen	3-lb. pkg. with queen
1-25	$0.75	$2.50	$3.20
25-100	.70	2.35	3.00
100-500	.65	2.20	2.80
500-up	.60	2.00	2.55

J. F. McVAY - Jackson, Ala.

When You Want QUALITY at LOW COST Look for This Sign

KELLEY—"The Bee Man"

RUSH

Bees - Queens - Supplies

Highest Quality and Lowest Prices

Big Catalog Free

The Walter T. Kelley Co., Paducah, Ky.

Manufacturers of Bee Supplies

Better-bred Queens

Three-Banded Italians **Young Bees**
Packages **Honest Weight**

We are prepared to deliver your bees when promised. Two good queen breeders, years of experience. Enough efficient help. Good strong colonies to draw from. Better-Bred stock to breed from. Packages made and ready. Cans bought and in our shop. Two good trucks with good tires. You will make no mistake by placing your order with us. Rush orders receive prompt attention.

	Queens	2-lb.	3-lb.	4-lb.	5-lb.
1-24	$0.75	$2.50	$3.20	$3.85	$4.45
25-99	.70	2.35	3.00	3.60	4.15
100-499	.65	2.20	2.80	3.35	3.85
500-up	.60	2.00	2.55	2.05	3.50

Orders booked without deposit.

CALVERT APIARIES — Calvert, Alabama

WE ARE PREPARED

to supply your needs with the best in Mountain Gray Caucasian bees and queens, and to DO OUR PART FOR NATIONAL DEFENSE. Fill your hives with our bees, give them plenty of room, and secure a bumper crop of the best energy food. DO YOUR PART FOR NATIONAL DEFENSE.

Select untested queen bees, 75c each, any number

	1 to 24	25 to 99	100 or more
Two-pound package bees with queen	**$2.50**	**$2.35**	**$2.25**
Three-pound package with queens	**3.20**	**3.00**	**2.85**

Circular free on request.

CAUCASIAN APIARIES
BROOKLYN, ALABAMA
Home of genuine Mountain Gray Caucasian Bees.

BRED IN QUALITIES Our "PROGENY-TEST" stock has a breeding background. Try our productive northern selected stock bred for resistance.

Lots of:	Queens	2-lb. Pkg.	3-lb. Pkg.
1-25	75c	$2.50	$3.20
25-50	70c	2.35	3.00
50-100	65c	2.20	2.80

BESSONET BEE COMPANY
DONALDSONVILLE, LA.

Add 10c per package, or queen, for stock bred for resistance. Orders booked without deposit. Positively no disease.

Mountain Gray Bees and Queens

You gave us the largest business in 1941 ever. We will try to give you even better service in '42. Book your orders early. There may not be enough bees to supply demand.

SPRING PRICES:

	Queens	2-lb.	3-lb.
1 to 49	**$0.75**	**$2.60**	**$3.30**
50 to 99	**.70**	**2.40**	**3.10**
100 or more	**.65**	**2.20**	**2.90**

Our Motto:
Service and Satisfaction

CATALOG FREE

BOLLING BEE CO.
BOLLING, ALA.

Three-Banded Italians

Shipped Fresh From Our Yards
Within 24 hours after receipt of your order.

Packages with Queens

	2-lb.	3-lb.	4-lb.	5-lb.
1-24	**$2.50**	**$3.20**	**$3.85**	**$4.45**
25-99	**2.35**	**3.00**	**3.60**	**4.15**
100 up	**2.20**	**2.80**	**3.35**	**3.85**

Young Laying Queens, 75c; 25 or more, 70c each; 100 or more, 65c each. Tested Queens, $1.50. Queenless Packages, deduct price of queen.

Citronelle Bee Co.
Citronelle, Ala.

Three-Band Italian Bees and Queens

Full Weight, Prompt Shipment, Young Bees, State Health Certificate with each shipment. Live arrival guaranteed, replacement or refund made promptly upon receipt of bad order, from your express agent.

2-lb. pkg. bees with untested queens.....each,	**$2.05**
3-lb. pkg. bees with untested queens.....each,	**2.65**
4-lb. pkg. bees with untested queens.....each,	**3.25**
5-lb. pkg. bees with untested queens.....each,	**3.85**
Untested queens	**.60**
Tested queens	**1.20**

Payable in U. S. funds.

Introduced queen packages, add 25c each; standard combs for nuclei, add 60c for each comb, to the size package quoted above.

JACKSON APIARIES

FUNSTON, GEORGIA, U. S. A.

No kin to old Mussi, but good Italian stock. Full weight packages, first quality queens. Prompt, Dependable, Courteous and Honest Service.

Prices as low as conditions will permit.

	Queens	2 lbs.	3 lbs.	4 lbs.	5 lbs.
1 to 24	$0.75	$2.50	$3.20	$3.85	$4.45
25 to 99	.70	2.35	3.00	3.60	4.15
100 to 499	.65	2.20	2.80	3.35	3.85
500 up	.60	2.00	2.55	3.05	3.50

Be sure of your choice of shipping date by booking order early. No charge for this booking.

Sullivan, Wright & Co. Gilbertown, Ala.

CARNIOLANS

Queens and Package Bees from State Inspected Apiaries—100% disease free

Quantity:	1-9	10-49	50 and over	
2-lb. bees with queen.....	$2.45	$2.35	$2.25	F.O.B.
3-lb. bees with queen.....	3.10	2.95	2.80	F.O.B.
Queens.....	.75	.70	.65	Ppd.

QUALITY - - - SERVICE - - - SATISFACTION

EPHARDT'S HONEY FARMS - - - PLAUCHEVILLE, LA.

Package Bees Italian Stock. Prompt Express shipment. 2-lb., $2.50; 3-lb., $3.20; 4-lb., $3.80; 5-lb., $4.40. Young laying queens included. Quantity discount. No disease.

CRENSHAW COUNTY APIARIES **Rutledge, Alabama**

BEES AND POLLINATION
(Continued from page 207)

Extensive research on alsike clover has shown that natural pollinating insects are so few in number that not enough seed set occurs to pay for the harvesting expense. Yields as high as 4 to 7 bushels per acre have been obtained frequently by farmers, when their fields of clover were in close proximity to a commercial yard of bees consisting of 60 to 100 colonies.

The increased quantities of protein supplied by green and dry legume forage and the value of nitrogen return to the soil by means of legumes are possible only through a dependable source of seed supply. This, in the ultimate analysis is made possible only by the pollination service rendered by our honeybee population.

The defense program related to increased production of dairy products, pork, and poultry products, further emphasizes the use of legumes in supplying larger quantities of forage, protein, and vitamins for this livestock production program. Thus it can be seen that the honeybee population is directly correlated with the defense food program.

Caucasians

Extra gentle, prolific, long-tongued, dependable workers —10% to 40% ahead of Italians. Get honey when others get nothing. Ideal for beginners.

Carniolans

Prolific at all times, very gentle, build up rapidly, make beautiful white combs, most excellent workers, colony records of 435 lbs. extracted each. Have supplied many state colleges and experimental farms in U. S. and Canada. My stock used in recent Iowa Experiment Station test. Both races better for northern and western states and both quite disease resistent.

2-lb. package with queen.....$ 2 50
3-lb. package with queen..... 3.25
8-fr. colony, tested (1941) queen 8.00
10-fr. colony, tested (1941) queen 10.00

Ready May 1st on. More convenient for eastern states and southern Canada. Less express charges, less net cost, less time in transit, arrive better condition. Queens introduced in packages and free among bees, if desired. Ask for free paper.

ALBERT G. HANN
Glen Gardner, New Jersey

WHEN WRITING TO ADVERTISERS, MENTION GLEANINGS

NORMAN BROS. PACKAGE BEES AND QUEEN

Boost Your Profits! Help Win the War! **Three Banded Italians** **The Best Kind You Can Buy!**

WHY WAIT LONGER?

During these emergency times, place your order with us; no deposit required. NORMAN BROS.' bright 3-banded Italians will help you to produce more honey in 1942 for your country's needs. Don't be uneasy. We will do our utmost part to ship the day you specify Full weight packages in light shipping cages, young baby bees, choice queen, guaranteed to please you in every respect. 20 years as shippers means something to you when quality and service are to be considered. Safe arrival and satisfaction guaranteed in U.S.A. and Canada. State health certificate furnished.

PRICES

	1 to 49	50 to 100
2-lb. pkg. with queen	$2.30 ea.	$2.25 ea.
3-lb. pkg. with queen	3.00 ea.	2.90 ea.
Untested queen	.70 ea.	.65 ea.

Packages F.O.B. express. If by parcel post, add 20c each for special handling, plus regular postage.

NORMAN BROS. APIARIES - - - - - Ramer, Ala.

Gaspard's Quality Golden and Three-banded Italian Queens and Package Bees

We are now booking orders for Spring 1942 on the same old basis, quality, full weight, prompt service and satisfaction. 10% will book your order, balance at shipping time. Book your order now and reserve shipping date. Prices as follows:

(Combless packages with queens)

Lots of	Queens	2-lb. pkg.	3-lb. pkg.	4-lb. pkg.
1 to 24	$0.75	$2.25	$2.95	$3.60
25 to 99	.70	2.10	2.75	3.35
100 or more	.65	2.00	2.50	3.15

(Comb packages with one Standard frame of brood each)

	2-lb. pkg.	3-lb. pkg.	4-lb. pkg.
1 to 24	$2.75	$3.45	$4.10
25 to 99	2.60	3.25	3.85
100 or more	2.50	3.00	3.65

If queenless packages are desired, deduct price of queen. For larger packages, for each additional pound of bees, add 50c; each additional frame of brood, add 50c, or write us.

Address **J. L. GASPARD, Hessmer, La.**

Photo shows portion of our queen bee yard containing over 6000 nuclei

Feed-cans, Sugar, Cages, Bees and Labor are the essential factors to assure delivery of your bees THIS SEASON. We have our year's supply of each. "WE ARE PREPARED." 2-lb. pkg. with queen, $2.45; 3-lb. pkg. with queen, $3.15. Extra queens, $0.75 each. War saving stamps accepted. For disease resistance queens, add 10c per queen.

LARGE ORDERS DISCOUNTED.
WRITE FOR FREE CIRCULAR.

Overbey Apiaries Bunkie, La.

SPINSTER JANE SAYS—

(Continued from page 228)

Our work, as experienced amateurs (if there be such; we are not experts) consists of looking after the bees in their owner's absence, feeding as he instructs, hiving swarms when they occur, and standing guard over that bee yard to see that no robbing goes on, and that no marauders trouble it. It sounds easy, but it is really a full-time job, keeping several of us on the qui vive in hot weather.

Perhaps it may be wiser to let some experienced beekeeper do the work for us, but, where would we find him, and how would we pay him? For my part, I believe we are just as careful as any big beeman could be. We love the work, we are bound to make a success of it, so why let someone else take all the joy out of life. Those with a few colonies are assured of their share of sweet things, no matter how short the sugar shortage may be. They do not have to pay for it, either, except in caring for the bees, seeing that they are properly kept, and free from all disease. A labor of love, in short, for the bee-minded.

Ceiling or no ceiling, it is up to us to produce every pound of honey we can, and to provide our bees with the necessary nectar-producing clovers to make this possible.

COMB HONEY PRODUCTION

(Continued from page 229)

(See page 161 of our last issue and page 224 of this issue.

Three Branches of the War Production Board

The three branches in the War Production Board with which the beekeepers are especially interested are as follows:

Farm Equipment Branch, War Production Board, Mr. William Tracy, in charge.

Containers Branch, War Production Board, Administrator, D. J. Beirne, in charge.

Sugar Section, War Production Board, Sugar Administrator, A. E. Bowman, in charge.

A Good Rule to Go By
Buy Your Bees and Queens from
ALABAMA APIARIES
Mt. Pleasant, Alabama

2-lb. pkg., with queens, 1 to 24 ..... $2.50
2-lb. pkg., with queen, 25 to 100 ..... 2.35
3-lb. pkg., with queen, 1 to 24 ..... 3.20
3-lb. pkg., with queen, 25 to 100 ..... 3.00

Queens, 1 to 24, 75c—25 to 100, 70c; 100 up, 65c

Our aim, "Once a Customer, Always a Customer"

Package Bees and Queens for 1942

Orders large and small will receive our prompt attention. Write for prices.

R. E. LaBARRE
Box 172, Cottonwood, California
Shasta County

3-BANDED ITALIAN QUEENS

FOULBROOD RESISTANT QUEENS

BRED IN ISOLATED YARDS

If you want A F B Disease Resistant Queens we have them. Good honey gatherers plus A F B Disease Resistant Qualities at no extra cost. For Caucasians see our January Ad. Ready April 1.

1 to 12, 75c; 12 to 50, 65c; 50 to 100, 60c.

723 C Street JOHN G. MILLER Corpus Christi, Texas

Italians or Caucasians

Over a quarter of a century in the same place, in the same business.

	1 to 5	6 or more
2-lb. package with young queen	**$2.50 each**	**$2.25 each**
3-lb. package with young queen	**3.20 each**	**2.90 each**

My motto: I will expect to do business with you again.

H. E. GRAHAM - - - - - Cameron, Texas

GIBB'S
Package Bees and Queens

Prices through April 30th

2-lb. pkg. with queen	**$2.35**
3-lb. pkg. with queen	**3.00**
Queens	**.70**

For queenless packages, deduct price of queen.

We can supply large quantities of bees until May 31st. Due to war conditions we are not in position to accept any more orders to be shipped after May 1st. Quality, prompt service, and satisfaction guaranteed.

Our new address

W. O. GIBBS, Enigma, Ga.

PACKAGE BEES and QUEENS
. . . . . Three-Banded Italians

2-lb. package with queen	$1.85
3-lb. package with queen	2.30
Queens	.50

Prompt shipment, safe arrival, satisfaction guaranteed.

THE CLOVER BEE FARM
Hessmer, La.

BEES QUEENS SUPPLIES

2-lb. pkg. with queen, $2.35; queenless, $1.70.
3-lb., $3.00; queenless, $2.35; Queens, 75c.
Prices in Canadian Money, subject to change without notice.
3-fr. nuclei, Canadian bees and queen, $5.00.
5-fr. nuclei (must be ordered early), $6.00.
Full colonies in new painted hives, $12.00.
Quality supplies of all kinds, at reasonable prices.

LORNE SHELLY, Troy, Ont., Canada

T. B. TURNER, Corning, Iowa

NORMAN'S
PACKAGE BEES and QUEENS

Now Ready

QUALITY

SERVICE

EXPERIENCE

Try John A. Norman's Bright 3-Band Italian bees and queens in your apiaries during the coming season. They not only will increase your bees, but also your honey profits. My bees are inspected and health certificate furnished with each order. I ship only young baby bees and in light convenient cages. Shipped on time and full weight on arrival. My Queens are purely mated and reliable. Satisfaction guaranteed or your money refunded. All packages express collect.

Queens ..... each	$0.55
Tested Queen	1.10
2-lb. package with queen.....	2.00
3-lb. package with queen.....	2.65

JOHN A. NORMAN

Ramer, Ala. Route 2

HERIER'S
High Producing

Italian Package Bees & Queens

For fine crops of comb, chunk or extracted honey try our Queens and Package Bees. They are slow to build cells and swarm, and stand crowding for comb honey building. They cap honey well and beautifully white.

We specialize in selecting Italian stock that has proven itself in **Maximum Honey Crops—Chunk and Comb Honey Building — Hardiness — Non-Swarming and Gentleness.**

State Certification—State Health Certificate with each package or queen. **Prompt Shipment—Safe Arrival and Satisfaction Guaranteed.** A select young laying queen in each package.

	2-lb.	3-lb.	4-lb.	Queens
1-9	$2.45	$3.15	$3.80	$0.75
10-29	2.30	2.95	3.55	.70
30-100	2.15	2.75	3.30	.65

In U. S. funds.

High Quality — Prompt Service — Honesty

R. B. Herier Co.

Valdosta, Ga. U. S. A.

HONEY IN THE SCHOOL LUNCH PROGRAM.

(Continued from page 212)

sheet in moderately hot oven, 375 degrees F., about 10 minutes.

Honey Prune Sandwich Bread

Two cups whole wheat flour, 2 cups sifted white flour, 2 teaspoons baking powder, ½ teaspoon soda, 1½ teaspoon salt, ½ cup honey, 1 egg, 1 cup evaporated milk, ⅔ cup water, and 1½ cup cooked prunes, chopped.

Sift together the white flour, baking powder, soda, and salt. Add whole wheat flour. Combine the honey with the slightly beaten egg, add evaporated milk and water. Add to dry ingredients, stirring lightly until thoroughly moistened, then add the prunes. Pour into well greased loaf pan and bake in a moderately hot oven, 350 degrees F., for 60 minutes.

Honey Baked Beans

Two cups navy beans, ¼ pound fat salt pork, sliced, 1½ teaspoons salt, ⅓ to ½ cup honey, ½ teaspoon mustard, and 1 small onion, diced (optional).

Wash beans; cover with 2 quarts of water and let soak overnight. Cook slowly until skins burst or until just tender. Drain. Place half of the beans in an earthenware bean pot or casserole. Bury part of the pork in the beans and add half of the combined remaining ingredients. Add remaining beans and seasonings. Place remaining salt pork on top. Cover with boiling water. Cover closely and bake in a slow oven, 250 to 300 degrees F., 6 to 8 hours, adding water when necessary.

Honey Nut Spread

One and ½ cups granulated honey, 2 tablespoons evaporated milk, 2 tablespoons butter, ½ cup chopped nuts, and salt.

Cream honey, evaporated milk, and butter until smooth and well blended. Add salt and chopped nutmeats. Use on buttered slices of whole wheat or graham bread.

Honey Whole Wheat Gingerbread

One-half cup honey, ½ cup sugar, ½ cup lard, ½ cup boiling water, 1¼ cups whole wheat flour, 2 teaspoons baking powder, 1 teaspoon ginger, ¼ teaspoon soda, and 1 egg.

Cream honey, sugar, lard and add the boiling water. Combine the dry ingredients and add to the first mixture. Add beaten egg and beat until smooth. Bake in greased muffin tins, 20 to 25 minutes in a moderate even, 350 degrees F.

Aurora, Nebr.

BUILD YOURSELF THIS NEW UNCAPPING UNIT!

Save Time! Save Money! Less Muss! Better Honey!

with the
Bradshaw Demountable Tub and Uncapping Table and Press

After fooling around for years with all of the usual muss, fuss, and headaches of handling cappings, the 12,000 colony Bradshaw Apiaries finally figured out this revolutionary new and better way.

With it, a school boy can slice cappings into the Bradshaw Demountable Tubs with an electric knife or by the usual way, put under press and force out up to 98½% superior quality honey without heat, boiler, or experienced help.

Open up demountable tub, remove "cheese" of wax and stack out of way until end of season when wax can be rendered at leisure.

MAIL COUPON FOR PLANS

While priorities will not permit us to manufacture this unit in quantity, you can obtain locally sufficient material to make one for yourself. For $2, we furnish you with complete instructions, specifications, and engineer's drawings for any size of operation.

Every operator small or large can profit with the Bradshaw Demountable Tub, Table and Press. Be sure to indicate number of colonies, and MAIL THE COUPON TODAY!

R. D. BRADSHAW & SONS, Date.....
102 Avenue B, Wendell, Idaho.

I operate ..... colonies. Enclosed is $2 check—money order—currency—for which send POSTPAID your copyrighted plans for uncapping with the Bradshaw Demountable Tubs, Table and Press.

Name.....

Address..... City and State.....

SHAW'S
Three-Banded Italians

For 19 years, this famous strain of Italians has pleased the most exacting honey producer, and has made me friends wherever purchased. Try them and make this a profitable season.

In addition to the above strain, I will be able to supply you with queens, and a limited number of packages from stock bred for resistancy to disease. Colonies averaged 200 lbs. here in Mississippi, the past season—and this is no honey state.

As it costs nothing to book your order, and will be to the advantage of both of us, do it early. Safe arrival and satisfaction guaranteed.

Prices—either strain:

Lots of	Queens	2 lbs.	3 lbs.
1-24	$0.75	$2.50	$3.20
25-99	.70	2.35	3.00
100-499	.65	2.20	2.80

If queenless packages are wanted, deduct price of queen.

A. E. SHAW, Shannon, Miss.

FOR SALE

Bright Yellow and Three-Banded Italian Bees and Queens. Nothing but the best. Keep us in mind, we are ready to serve you.

GRAYDON BROS.
Rte. 2, Greenville, Ala.

BEES WILL ENTICE YOU

(Continued from page 219)

(drones) and incompletely developed females (workers) at will, and according to their requirements, as they see it. Sex predetermination seems a simple problem for the bees, but we haven't been able to do it as yet. Some investigators have attempted to wrest this secret from the bees and apply it to humans, but without success.

The bee hive is an excellent example of communistic life, not dictatorship as in Russia, real communism. Everything is co-operation for the community good, community perpetuation, and establishing new communities. The community, colony or state, is all important and the individual is of no importance, excepting in as far as she or he contributes to the welfare of the community. The colony of bees is decidedly not a democracy, where the state supposedly functions for the welfare of the individual, and for no other purpose.

As may be surmised, we never got into the production of honey by the ton, nor did we build up "hives by the hundreds." Not that it cannot be done in the way I dreamed that June day about eight years ago, but we kept our colonies to between ten and fifteen and have had a goodly supply of extracted and comb honey ever since, as did many a friend and visitor. It is well worth while and we hope to continue.

Bloomingdale, Mich.

WHEN WRITING TO ADVERTISERS, MENTION GLEANINGS

GARON'S.....2 STRAINS

5th YEAR 3-banded PROGENY TEST Italian Bees and Queens.
3d YEAR'S Breeding Daughters of Stock Bred Resistant to A. F. B.

In War Time as in Peace Time, GARON'S Name stands for RELIABILITY in QUALITY and PROMPTNESS in SERVICE. Health Certificates on all packages.

Circular upon request. Prices for both strains:

	2-lb. pkg. with queen	3-lb. pkg. with queen	Queens
1-10	$2.45	$3.15	$0.75
11-50	2.30	2.95	.70
51-100	2.20	2.80	.65
101-500	2.15	2.75	.60

On larger orders, write us.

GARON BEE COMPANY, DONALDSONVILLE, LA.
Telephone 8614 **Telegrams .... Western Union**

RELIABLE SERVICE RELIABLE PACKAGE BEES and QUEENS
THREE-BANDED ITALIAN BEES and QUEENS

Price list, Via Express Collect. All prices subject to change without notice.

	2-lb. pkgs.	3-lb. pkgs.	4-lb. pkgs.	5-lb. pkgs.	Queens
1- 24	$2.50	$3.20	$3.85	$4.45	$0.75
24- 99	2.35	3.00	3.60	4.15	.70
100-499	2.20	2.80	3.35	3.85	.65

Prices via mail quoted on request. Pure mating, safe arrival, prompt shipment, quality bees and Queens guaranteed.

W. E. HARRELL **Hayneville, Alabama**

TOO LATE TO CLASSIFY

HONEY WANTED — Quote your best price, and state whether cans are new or used, and send sample if possible to Jacob Wolosevich, 6315 So. Damen Ave., Chicago, Ill.

FOR SALE—Certified Italian queens, package bees from 600 colonies: May, 50 c per pound, June, 40c. New crop gallberry-tupelo chunk comb, extracted. Tomato plants, $2.00 a thousand. A. V. Dowling, Valdosta, Georgia.

WANTED—Honey for storage. We operate Federally licensed warehouse and issue negotiable receipt in exchange for your honey. Low storage rates. Write for particulars. Hamilton & Company, 1360 Produce St., Los Angeles, Calif.

FOR SALE—No. 1 White Honey and Light Amber. Packed in 5-lb. tin pails and 60-lb. cans. The Hubbard Apiaries, Onsted, Michigan.

SWEET ANISE SEED produces an abundance of fall nectar. $1.00 package seeds fifty feet. Hollyhock seed free for pollen. Herman Richter, 401 No. K. St., Tacoma, Wash.

FOR SALE—23 colonies of bees with equipment for extracted honey, in good condition. State inspected. Located in Indiana County, Pennsylvania. E. L. Gillette, Odon, Indiana.

FOR SALE—Thirty 10-frame standard beehives with full-depth and half-depth supers, excellent combs. All in good condition. Reasonable. Alan Mulliken, Route 1, Nickerson, Nebr.

HOMAN'S
3-Banded Italian Bees & Queens

Vigorous Honey Producers, the Best by Test. We know how to raise queens and package bees for shipping as we have had life experience with bees. When you order from us you get young bees and queens. No extra charges on booked orders. Safe arrival and satisfaction guaranteed.

Prices on Pkg. Bees and Queens

Lots	Queens	2-lb. pkg.	3-lb. pkg.
1 to 24	$0.75	$2.50	$3.20
25 to 99	.70	2.35	3.00
100 to 499	.65	2.20	2.80

Homan Bros.
Shannon, Miss.

Progress Says . . . .

"Air Condition For Safety"

It's Here! It's Modern! It's New!

Air Conditioned Truck for Handling; Air Conditioned Room for Holding Packages at Correct Temperature

from the time they are taken from the hive until they are placed in express cars. **No Overheating, No Agitation, No Fright, Kept Calm, Kept Cool, Kept Clustered and Satisfied**

And Remember: We give you a quality product and all of this EXTRA SERVICE that no other shipper offers, at NO EXTRA COST. That's why

Puett's Perfect Packages Are Best

Quantity and Prices	1-24	25-100	100 up
2-lb. pkg. with queen	$2.50	$2.35	$2.20
3-lb. pkg. with queen	3.20	3.00	2.80
4-lb. pkg. with queen	3.80	3.60	3.40

For Loose-Queen type add 30c per pkg. Untested Italian Queens 75c. Tested $1.25. Place your order early to get preferred delivery dates.

The PUETT COMPANY
HAHIRA, GA.

The above is one of the many pieces of cooperation given to the Institute by our leading food concerns during 1941.

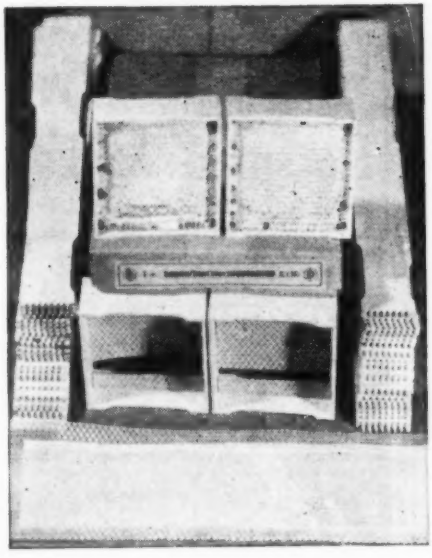
• • •

AMERICAN HONEY INSTITUTE
MADISON, WISCONSIN

What is

PATRIOTISM?

Considerable difficulty may occur in trying to secure enough tin containers for the 1942 honey crop. After all, the first job is to win the war. If material for containers is needed for urgent war uses, the latter must come first.



Glass will have to play its part in selling the 1942 crop more than ever before. Cartons may be difficult to secure. Have you considered that sections are their own containers? It is urgently recommended that comb honey be produced for local sales in 1942. This will release strategic materials for war use. After all, we want to help win the war.

HONESTLY MADE——HONESTLY SOLD——HONESTLY PRICED

LEWIS BEEWARE

STANDARD OF THE BEEKEEPING WORLD

G. B. LEWIS COMPANY

Established 1863

Home Office and Works: Watertown, Wisconsin

Branches: Albany, N. Y. Lynchburg, Va. Springfield, O. Sioux City, Ia.

Italian Bees and Queens

Now Ready

Let Your Orders Come

2-lb. pkgs. with young queen .....each	$2.00
3-lb pkgs. with young queen .....each	2.65
4-lb. pkgs. with young queen .....each	3.00
Young untested pure mated queens ...each	.55

We have been breeding 3-banded Italian bees for 21 years and have been shipping to most all states in U. S. and Canada. Ours will please you. Let us prove it to you with our large yellow select 3-banded Italian bees. They are the honey-gathering kind. We ship full weight of baby bees with a young fertile queen. We are now ready to take your order and will begin shipping around April 5th. Health certificate furnished. Safe arrival and satisfaction guaranteed. All package bees F.O.B. Express.

Norman Bee Co.

Ramer, Ala. Box 93

Honey Prices are definitely up. Don't let your equipment lie idle. We can supply you with QUALITY

Italian Package Bees

that will pay you a real profit this season.

Our bees are gentle, productive, conservative of stores, and winter well.

Place your order now while you can still select your shipping date, and be sure of delivery.

2-lb. pkg. with queen, $2.25 each

3-lb. pkg. with queen, $2.85 each

Prices not guaranteed unless we have your order.

Nuclei can be furnished.

"THEY PRODUCE"

State health certification.

Rossman & Long

P. O. Box 133 Moultrie, Ga.

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